

KICKER®

KX Technical Manual



Features

Radically Advanced Chassis with removable shroud and improved heatsink technology. The heatsinks provide the amplifier with longer runtime, improved reliability and performance. The height has been decreased for more versatile installations. For those *Living Loud* systems we offer custom paintable amplifier shrouds.

Low Impedance Operation The KX series amplifiers are stable down to 2 Ohm stereo and 4 Ohm mono. This will allow the installer flexibility when designing the system. It will be easier to set up the right speaker impedance for the amplifiers. (*KX400.1, KX600.1 stable to 2 ohm mono and the KX1200.1 is stable to 1 ohm mono.*) One thing to remember: *800 watts at 4 ohms is equal to 800 watts at 2 ohms and is equal to 800 watts at 1 ohm.*

SHORT Protection Circuitry (Short circuit, Over-voltage, Reverse polarity, Thermal)

1. **Short circuit**- Protects the amplifier in case the speaker wire accidentally touches itself or the chassis of the car or truck. This circuitry shuts down the amplifier before anything can cause damage requiring the need to be sent in for repair.

2. **Over-voltage**- When the amplifier sees voltages above 16 volts or below 10.5 volts it will shut down to protect the circuitry. *If the voltage regularly fluctuates to this degree, a qualified installer needs to check it out!*

3. **Reverse polarity**- When the power and ground are hooked up in reverse, the amplifier will blow the fuse or fuses on the side of the amplifier. Just check the wires and replace the fuses and you're up and running without damaging the amplifier.

4. **Thermal**- At 185°F the amplifier will shut down in order for it to cool. At 175°F the amplifier will resume normal operation. When the amplifier shuts down due to thermal protection it is wise to let it cool down. If it does not have enough time to cool down, it will go into thermal protection immediately when you turn it back up to the volume level at which it shut off. If this consistently becomes a problem, check the impedance of the woofer and make sure the amplifier is properly ventilated

MOSFET Power Supply Kicker amplifiers use MOSFET (Metal Oxide Semiconductor Field Effect Transistor) devices in our power supplies in order to gain more efficiency. MOSFET devices create a lot less heat than standard Bipolar transistor devices and switch at 30K which is well out of the audible region. With these factors taken into account, it is easy to see why our amplifiers are *Living Loud*.

KickBass All of the KX amplifiers come with 18 dB of boost at 40Hz so you can tweak the low end of your system. If your system is lacking a little in the low end or your system has a dip around 40Hz, you can adjust the control to give you more *KICK* without adding an equalizer.

Built-In Variable Crossover The KX series have a built in 12 dB High pass or Low pass crossover variable from 50-200 Hz. If you are using the amp to run speakers that need crossover protection, flip the switch to HI PASS or if you are using the amplifier to run subwoofers, flip the switch to LO PASS. Either way your amplifier will be able to handle all of your needs. The crossover is defeatable for full range operation when there is no need for a crossover.

High & Low level inputs Whether you have a stock radio or an aftermarket stereo you will be able to hook up the KX Series of amplifiers without the need for any adapters. High to low level adapters can rob your system of important performance. We have eliminated the need for such adapters by building a series of amplifiers capable of accepting a high or low level signal.

Features

PAST (Pre Amp Signal Transfer) Many systems contain more than one amplifier. We have included output RCA's that are capable of driving up to 10 amplifiers in a chain. We have eliminated the need for y-adapters that could potentially induce noise into the system.(Only on the KX.1 And KX.2 amplifiers.)

Custom tooled gold plated connectors Assure maximum power transfer and damping.

SAMS (Stereo And Mono Simultaneously) Amplifier will operate into a bridged mono load and a stereo load at the same time. This type of system is great if the consumer is just starting out, or on a tight budget.

Remote Bass Level Control (*KX120.2, KX150.2, KX200.2, and KX300.4 not included.*) When using a KX amplifier equipped with an input jack, and the crossover set to LO PASS you are able to control the gain level of the amplifier from the front of the vehicle. The KQ5 will control the KX amplifiers, just remember to plug the cable into the amplifier. Just like the previous control, the Remote Bass level Control acts as an attenuator. Wherever the gain on the amplifier is set, that is the highest level the control will reach.

Class D Mono Amplifier (*KX mono amplifiers only.*) Deliver Massive power, because of the efficiency that the design offers. It delivers a ton of power into a single channel *without* straining the vehicles charging system. At normal operating levels this amplifier design will be more efficient than the AB-Class design, although at full power, it will draw just as much current as the AB amplifiers. Keep in mind the amount of time spent at full power is dramatically less than the time at lower power levels making this a very popular amplifier design.

Subsonic Filter 12 dB at 25Hz (*KX mono amplifiers only.*) When using a vented enclosure, the built in subsonic filter, which is defeatable, will protect the woofer from damaging low frequencies and allow the amplifier to run more efficiently in a smaller bandwidth..

Strapping Jacks(*KX mono amplifiers only.*) Using a mono 2 conductor cable terminated with a 3mm / 1/8" Tip Sleeve connector, you can link two amplifiers together. The amplifier's output is combined and produces mind blowing **Double Power** to the woofers. Make sure you study the diagram explaining the process, otherwise very bad things happen.

Forced Induction Cooling All models except the KX120.2, KX150.2, KX200.2, KX300.2 and the KX400.1. Helps to exhaust the hot air that has built up inside of the amplifier during operation. The fan is activated when the amplifier get hot. As the temperature rises, the fan spins faster, circulating more air to cool the amplifier.

Three Year Warranty When you're 'Livin' Loud' you want the tunes to roll non-stop and we couldn't agree more. When you purchase your KX Amplifier from an authorized KICKER dealer we back it up with a full year warranty...parts and labor. If you have an authorized KICKER dealer install it for you at the time of purchase we push that warranty out to a full **THREE** years! We build our products to give you years of trouble free performance and know that if it is installed right the first time you will get just that...so we back it up!

Specifications

Model	KX120.2	KX150.2	KX200.2	KX300.2	KX400.2	KX500.2	KX800.2	KX300.4	KX600.4	KX800.4	KX550.3	KX 700.5	KX400.1	KX600.1	KX1200.1
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RMS Power

In Watts, All Channels Driven

@ 13.8V, 4Ω Stereo, 0.085% THD	30 x 2	38 x 2	50 x 2	75 x 2	100 x 2	125 x 2	200 x 2	38 x 4	75 x 4	100 x 4	40 x 2	40 x 4			
@ 13.8V, 2Ω Stereo, 0.2% THD	60 x 2	75 x 2	100 x 2	150 x 2	200 x 2	250 x 2	400 x 2	75 x 4	150 x 4	200 x 4	75x 2	75 x 4			
@ 13.8V, 4Ω Mono, 0.4% THD	120 x 1	150 x 1	200 x 1	300 x 1	400 x 1	500 x 1	800 x 1	150 x 2	300 x 2	400 x 2		150 x 2			

SUB Power (.1, .3, .5 Series)

In Watts

@ 13.8V, 2Ω Mono, 1.5% THD											400 x 1	400 x 1	400 x 1	600 x 1	
@13.8V, 1Ω Mono, 1.5% THD															1200 x 1

Dynamic Power

In Watts, All Channels Driven

@ 14.4V, 4Ω Stereo	60 x 2	70 x 2	85 x 2	110 x 2	150 x 2	205x 2	295 x 2	60 x 4	120 x 4	175 x 4	70 x 2	70 x 4			
@ 14.4V, 2Ω Stereo	85 x 2	100 x 2	125 x 2	175 x 2	217 x 2	285 x 2	420 x 2	75 x 4	150 x 4	215 x 4	80 x 2	80 x 4			
@ 14.4V, 4Ω Mono	170 x1	200 x 1	250 x 1	350 x 1	435 x 1	570 x 1	840 x 1	150 x 2	300 x 2	430 x 2		165 x 2			

SUB Power (.1, .3, .5 Series)

In Watts

@14.4V, 2Ω Mono													420 x 1	420 x 1	420 x 1	690 x 1	
@14.4V, 1Ω Mono																	1350 x 1
Length with Shroud	12.75" (32.38cm)	12.75" (32.38cm)	16" (40.64cm)	16" (40.64cm)	19.25" (48.90cm)	22.5" (57.15cm)	25.75" (65.41cm)	16" (40.64cm)	22.5" (57.15cm)	25.75" (65.40cm)	19.25" (48.90cm)	22.5" (57.15cm)	12.75" (32.38cm)	16" (40.64cm)	22.5" (57.15cm)		

Specifications common to all models:

Height:	2.5 inches / 6.35 centimeters
Height without Shroud	2 5/16 inches / 5.87 centimeters
Width	10.125 inches / 25.7 centimeters
Amplifier without Shroud	Subtract 5 " or 12.7cm from measurement above
Frequency Response	20 Hz - 20 kHz Stereo models (20 Hz - 200 Hz on Mono Models only), + 0, -1dB
Input Sensitivity:	170 mV - 5 V low level, 340 mV - 10 V high level
Signal-to-Noise Ratio:	> 95 dB, a-weighted, re: rated power
Electronic Crossover:	Variable high or low pass (depending on the model), 50 - 200 Hz, 12 dB/octave
KickBass Boost:	Variable 0 to + 18 dB boost @ 40 Hz

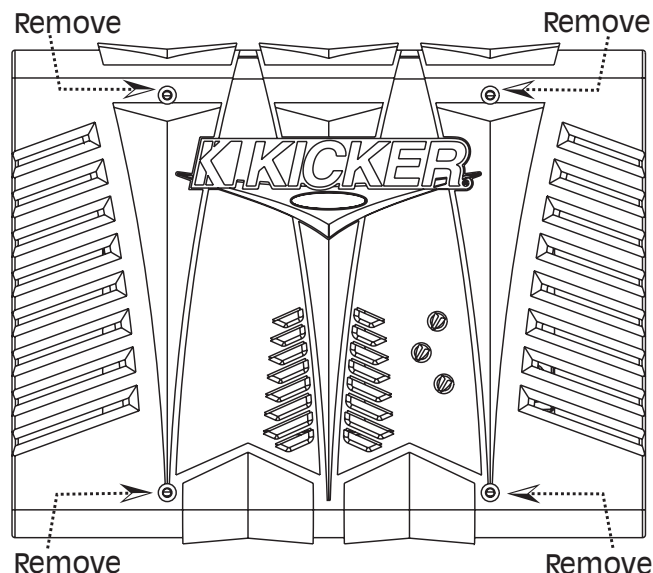
Mounting Instructions

When selecting a location to mount your Kicker amplifier be sure it is structurally sound and that there are no items behind the area that could be damaged by the screws. Check for wiring, brake lines, fuel lines, gas tanks, etc.

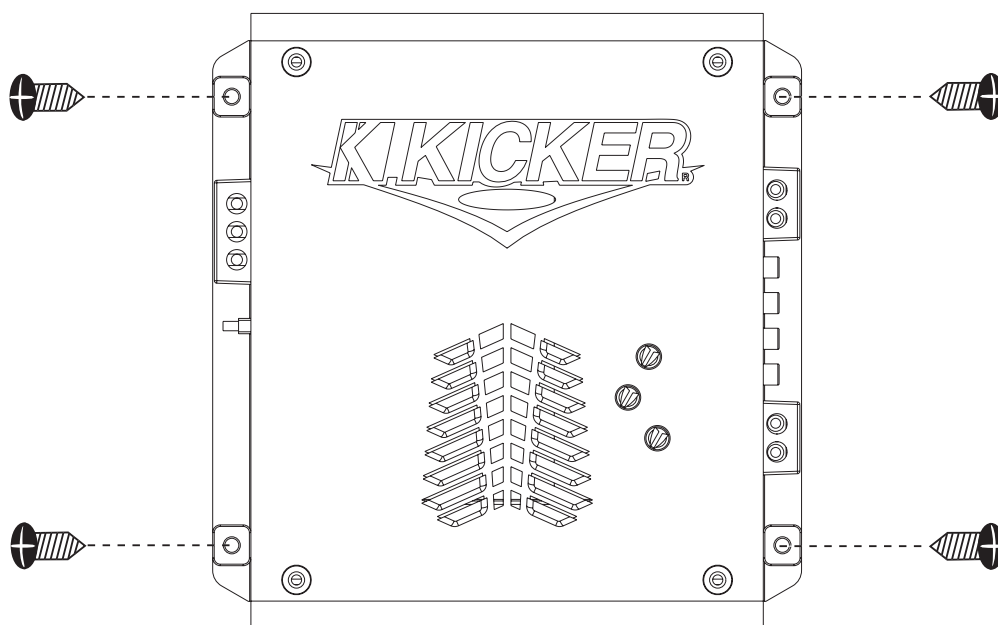
All amplifiers generate heat under normal operation. Be sure to choose a location that allows adequate ventilation for the amplifier. Also consider that the air temperature inside an automobile's trunk can reach upwards of 140 degrees fahrenheit. An amplifier mounted here may require additional cooling needs such as fans or venting to allow cool operation. If possible, mounting the amp in the passenger compartment will allow cooler operation.

Remember that the controls on top of the amp will need to be accessible for adjustment later. Keep this in mind as you choose your amplifier's mounting location.

Now that you are ready to mount your amplifier, use the supplied 3mm allen wrench to remove the amplifier shroud. This will give you access to the mounting holes in the amplifier and all wiring connections.



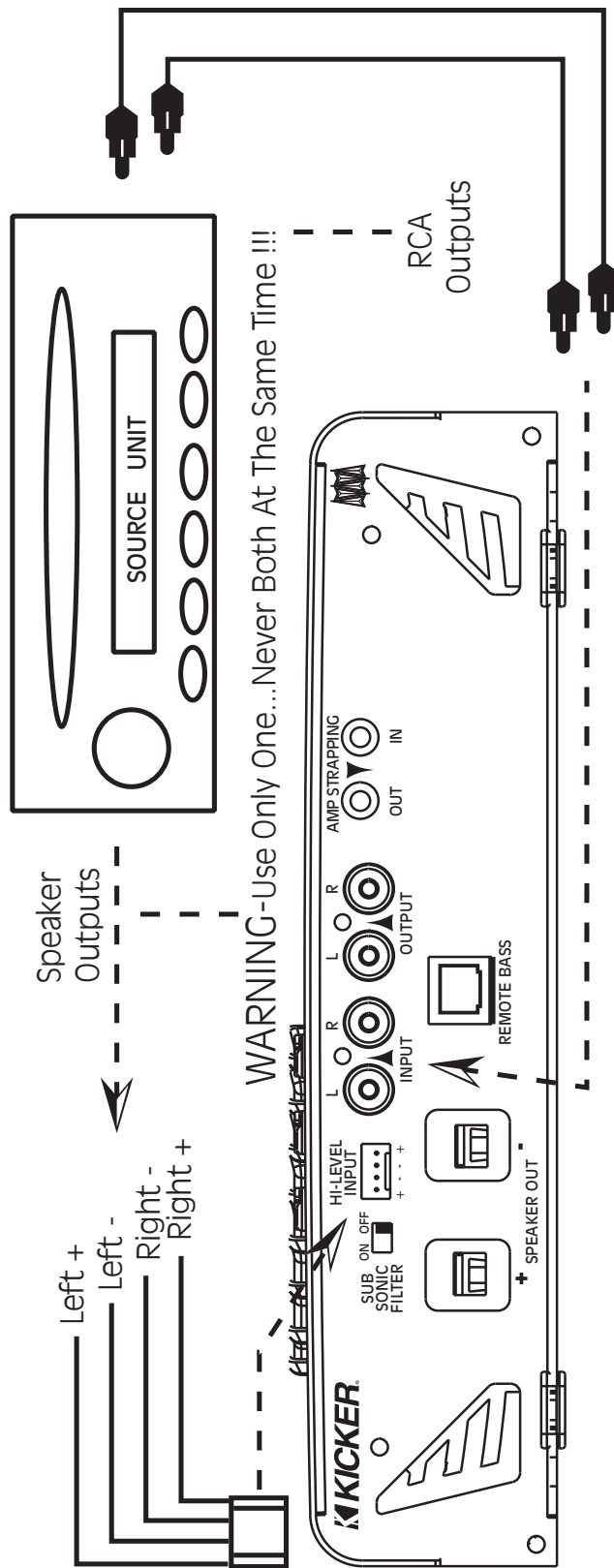
With the shroud removed, you now have access to the four mounting holes in the mounting feet and all wiring connections. Drill 4 holes using a 7/64" drill bit and use the supplied #8 screws to mount the amplifier.



Wiring Instructions

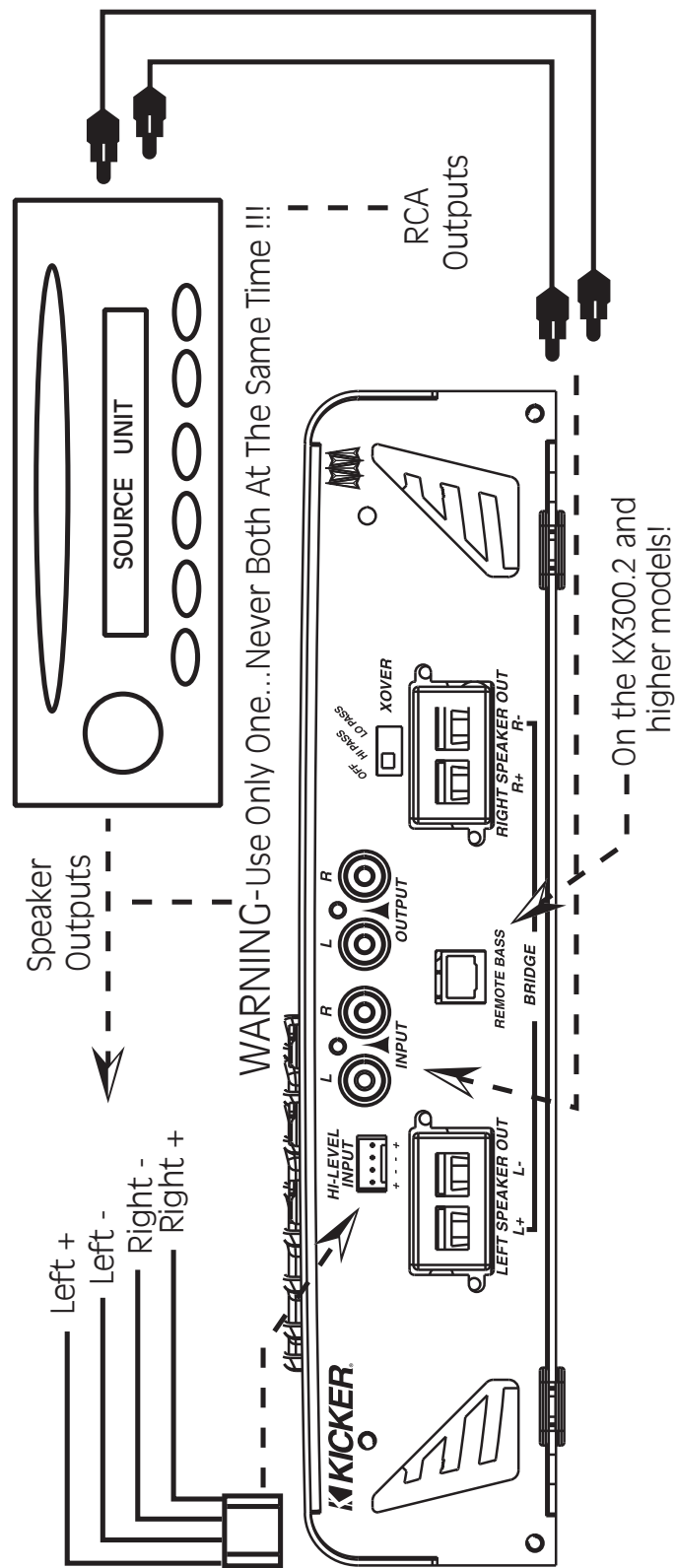
Signal can be input into the amplifier using either the low level RCA input connections or the high level speaker level connections. Using the low level RCA connections is the preferred method. Use the high level inputs only if your head unit does not have low level RCA type outputs. Connecting to the amp with either input will provide a low level signal at the output (**PAST**) jacks. Do not use both methods of connections. Use either high level or low level to connect the amplifier.

KX.1 Wiring



Wiring Instructions

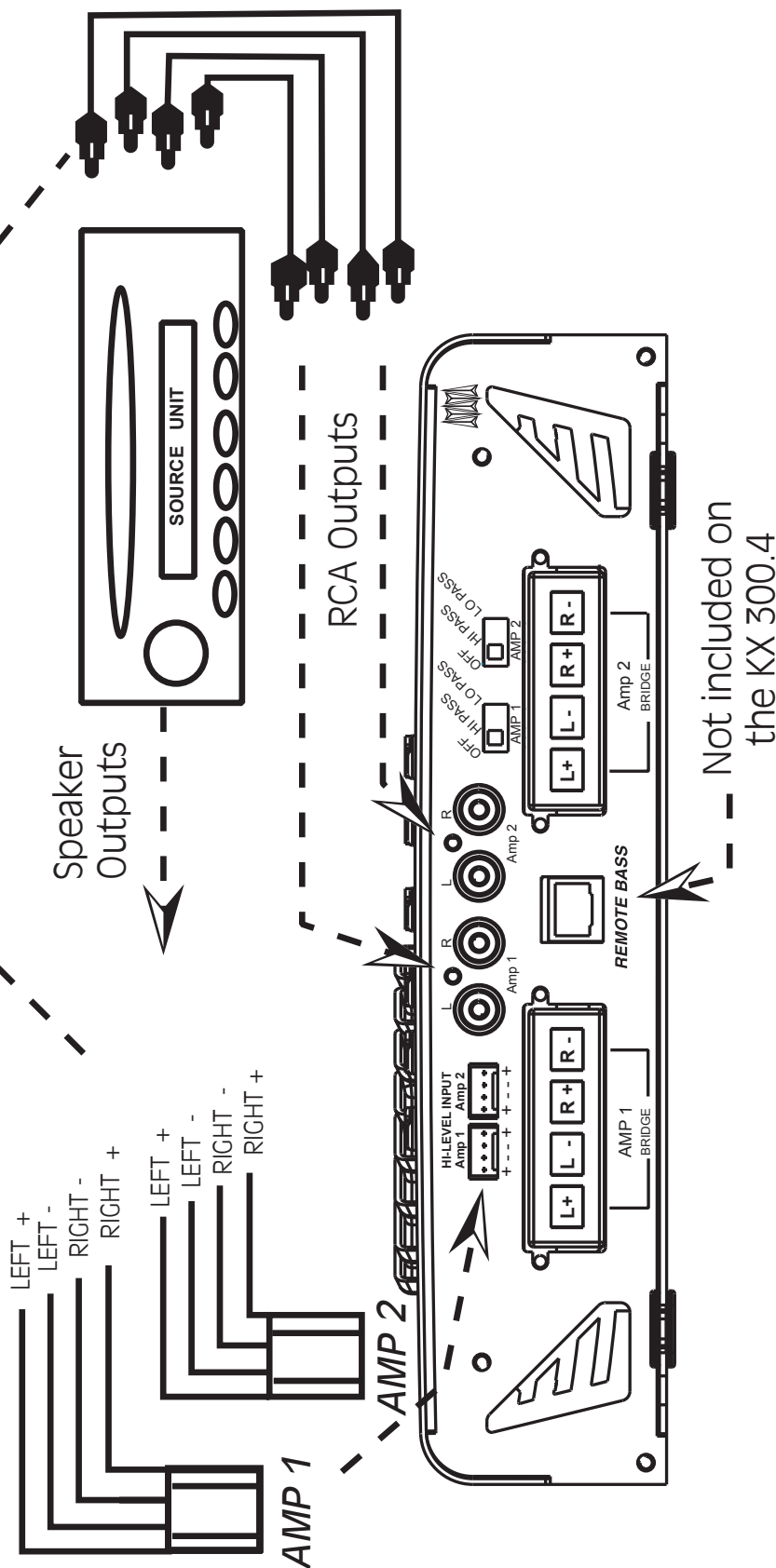
KX.2 Wiring



Wiring Instructions

KX.4 Wiring

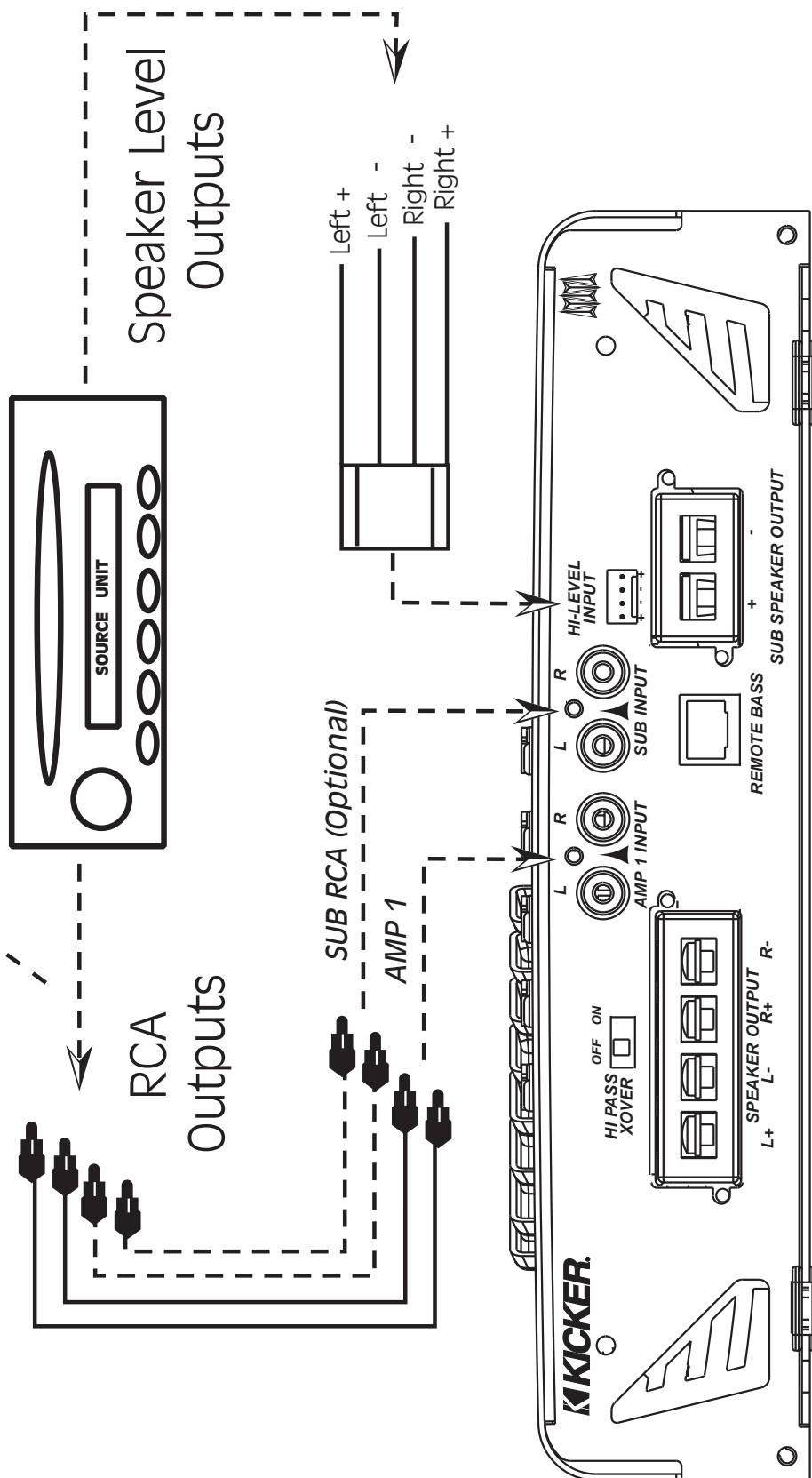
WARNING-Use Only One...
Never Both At The Same Time!!!



Wiring Instructions

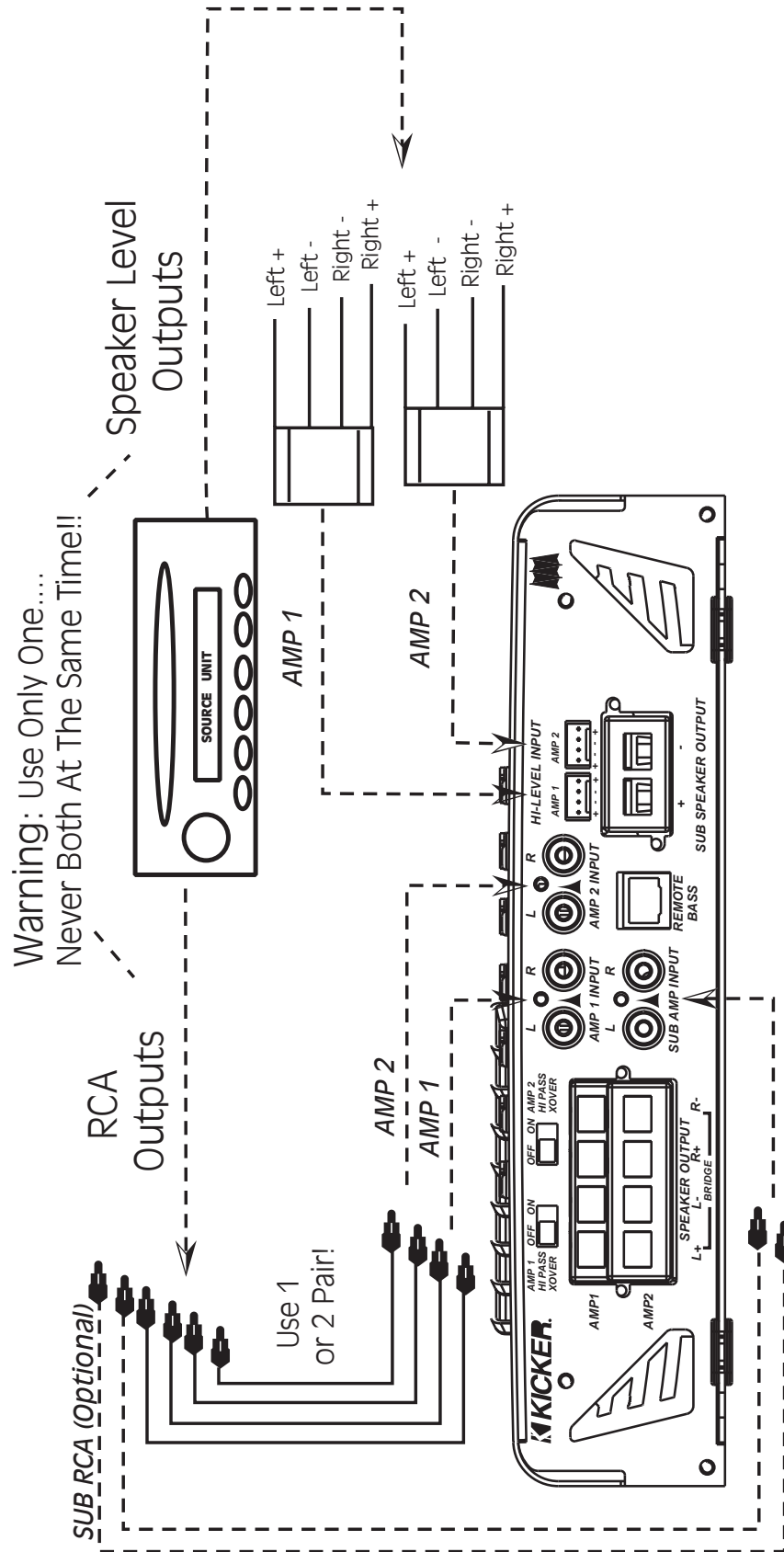
KX550.3 Wiring

Warning: Use Only One....
Never Both At The Same Time!!



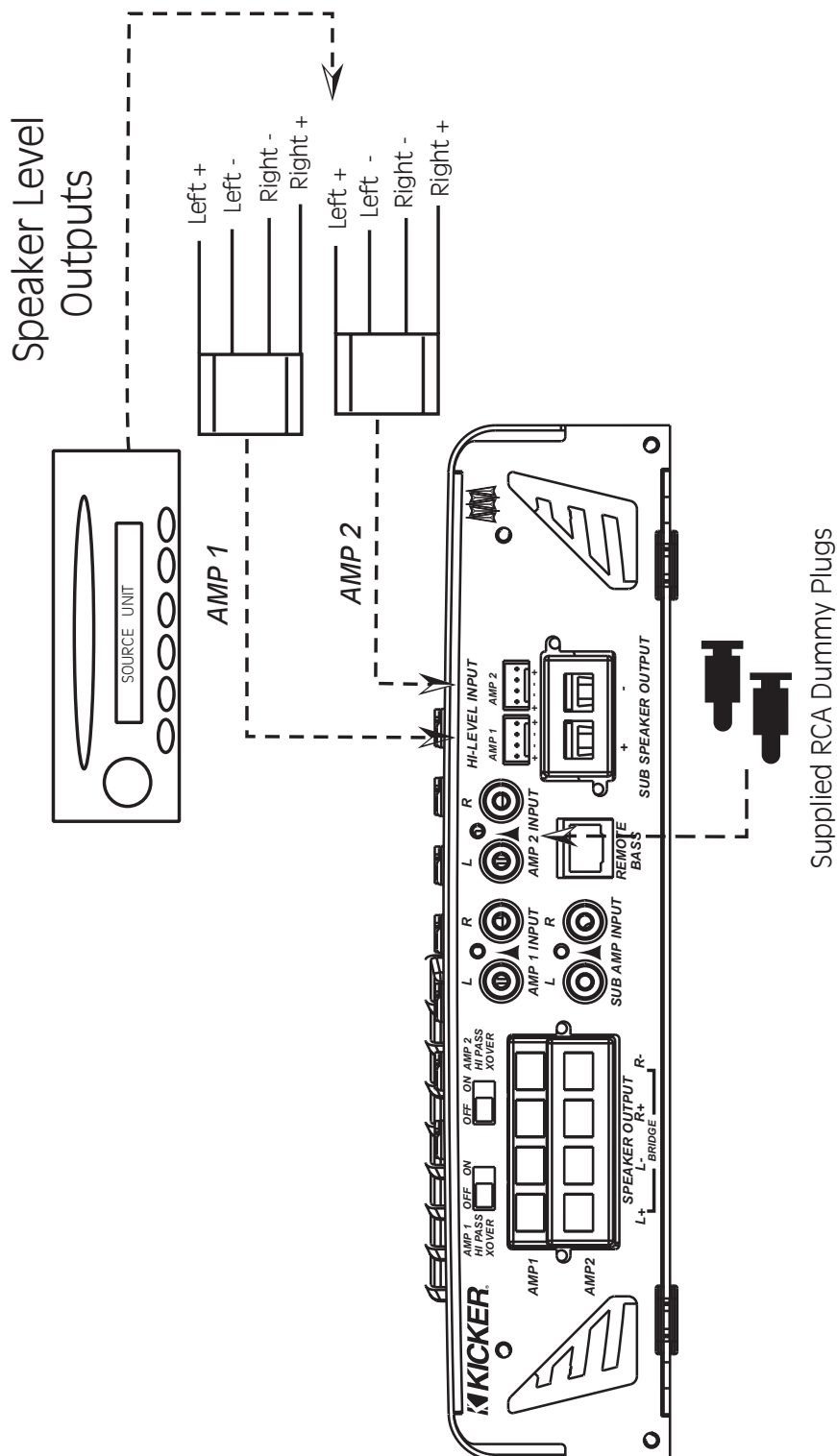
Wiring Instructions

KX700.5 Wiring



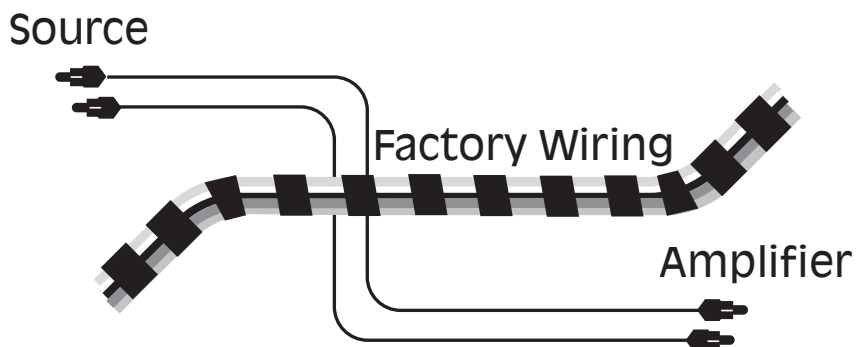
Wiring Instructions

When using both sets of High Level inputs, the supplied RCA dummy plugs must be inserted into the AMP 2 inputs in order for the fader to work properly. **If the amplifier is being used in any other configuration Do Not use the supplied dummy plugs!**



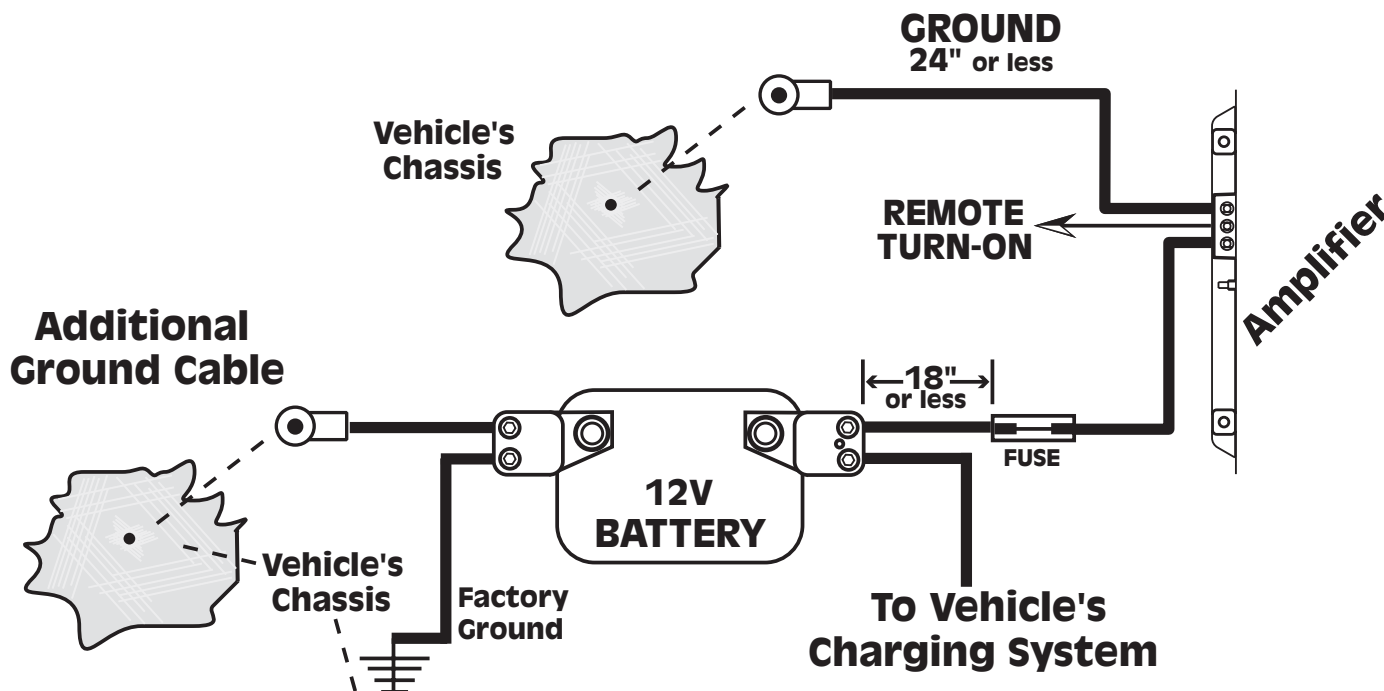
Wiring cont.

The use of twisted pair interconnects is recommended for all installations to minimize noise. When routing these cables through the automobile, try to keep them away from factory wiring harnesses and other power wiring. If you need to cross any of this wiring do so at a 90 degree angle to reduce the possibility for noise problems.



When working with power connections it is always recommended that you disconnect the battery to prevent accidents!

The ground should be connected to the amplifier first before making any of the other connections. This wire should be as short as possible (24 inches or less) and connected to a paint/corrosion free solid metal area of the car's chassis. (See Diagram Below) Use the same gauge wire as recommended for the amplifier's power connection to the battery. Adding an additional ground wire between the car battery's negative post and the car chassis of this same gauge (or larger) is also recommended. See diagram below.



If you ever need to remove the amp from the vehicle after it has been installed, the ground wire should be the last wire disconnected from the amplifier, just the opposite as when you installed it.

A fuse must be installed within 18 inches of the battery to protect the power wire feeding your amplifier. This fuse should be of at least the same value used in the amplifier but no higher than the capacity of the wire. See the chart on next page for wire size and fusing recommendations.

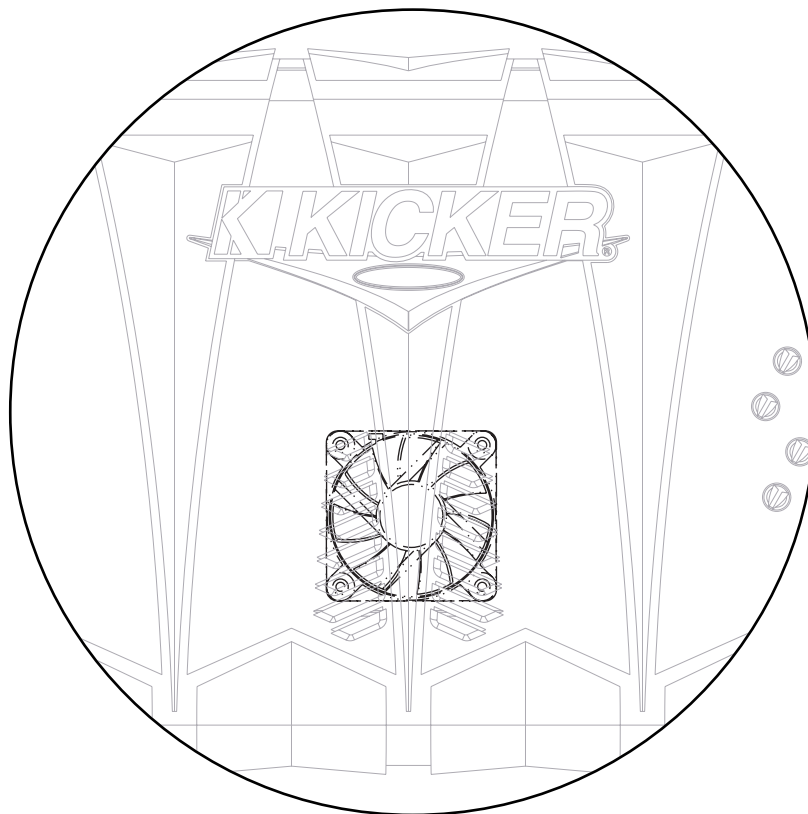
Wiring cont.

Model	Fuse Size	Wire Size
KX120.2	25A	8 GA
KX150.2	30A	8 GA
KX200.2	40A	8 GA
KX300.2	50A	8 GA
KX400.2	60A	4 GA
KX500.2	70A	4 GA
KX800.2	120A	2 GA
KX300.4	40A	8 GA
KX600.4	80A	4 GA
KX800.4	120A	2 GA
KX550.3	60A	4 GA
KX700.5	90A	4 GA
KX400.1	40A	4 GA
KX600.1	60A	4 GA
KX1200.1	150A	1/0 GA

Specifications subject to change without prior notice.

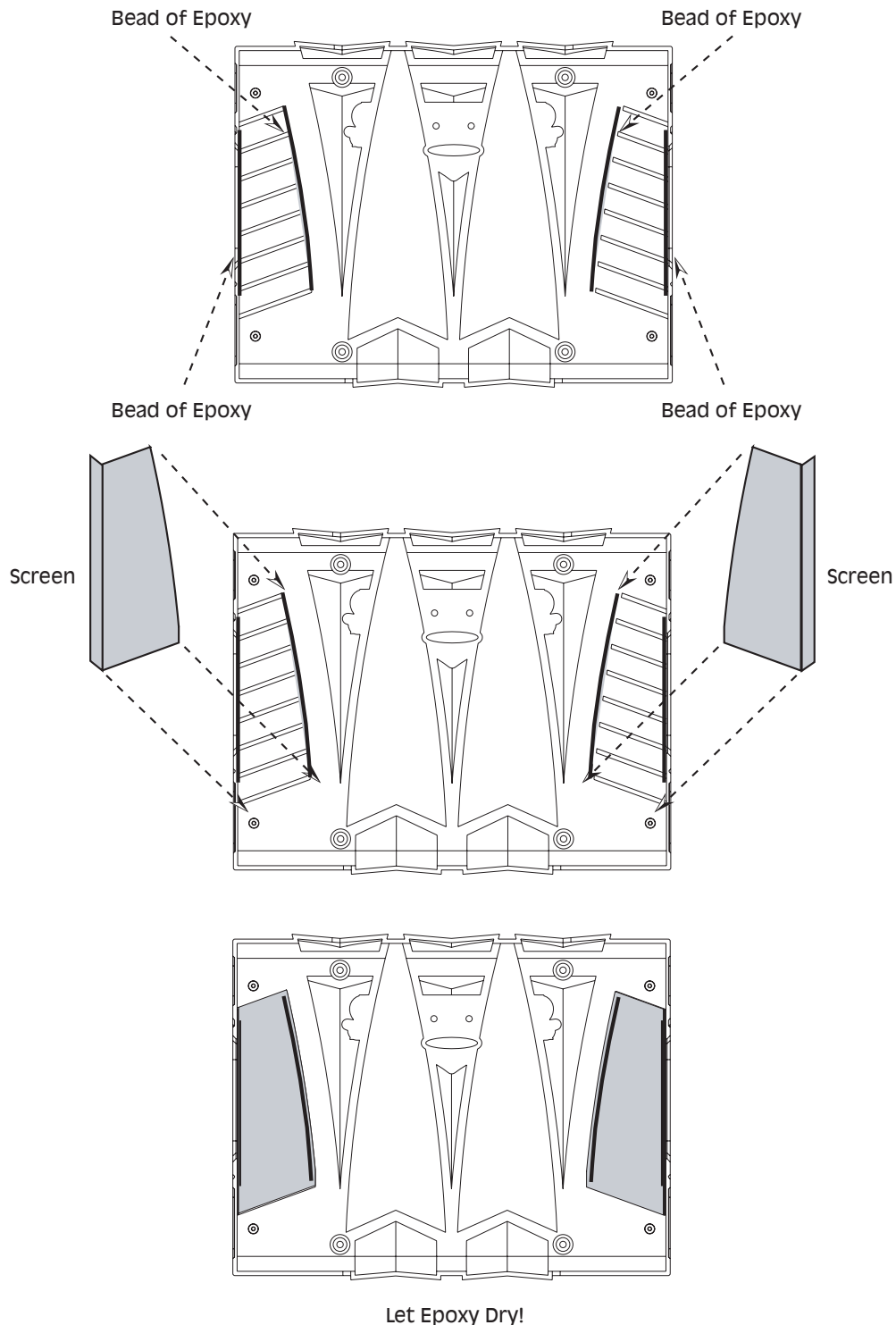
Forced Induction Cooling Vents

All models except the KX120.2, KX150.2, KX200.2, KX300.2, and the KX400.1 come with a fan to exhaust any heat that has built up inside of the amplifier during operation. The thermally controlled fan uses a forced induction system to cool the operating temperature down to tolerable limits. When the amplifier gets hot, cool air is forced in and the hot air is forced out. The hot air is exhausted through the vents on the top of the amplifier.



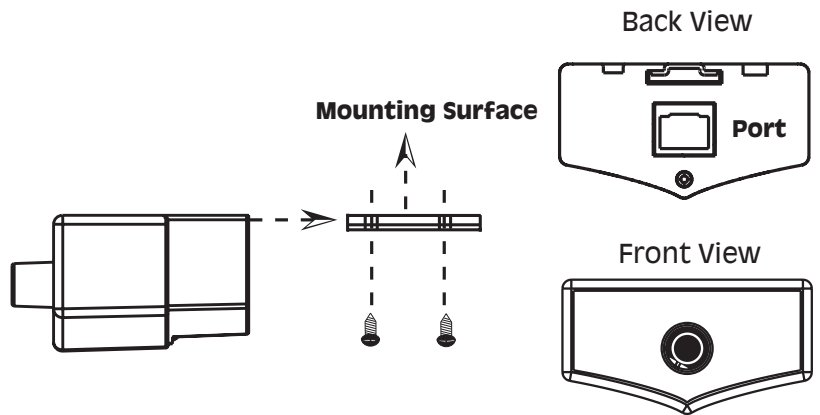
Screen Mounting

For custom installations we offer unpainted amplifier shrouds. They will need to be painted or customized to fit your needs before mounting the screens. To mount the screen to the shroud, you will need to use an adhesive. A common 5 minute epoxy will be sufficient. Run a bead of Epoxy on the inside face of the shroud and a bead on the side wall of the shroud. Wait until completely dry before mounting the shroud on the amplifier. See diagram below.

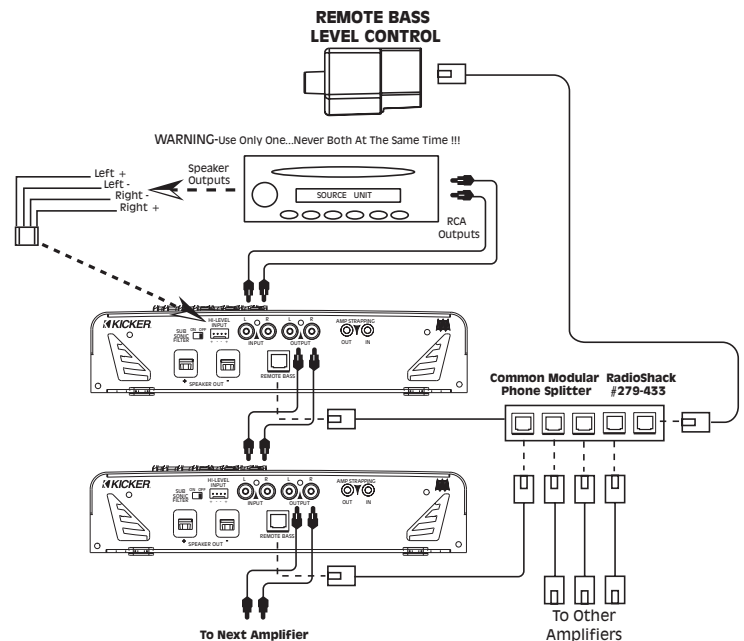
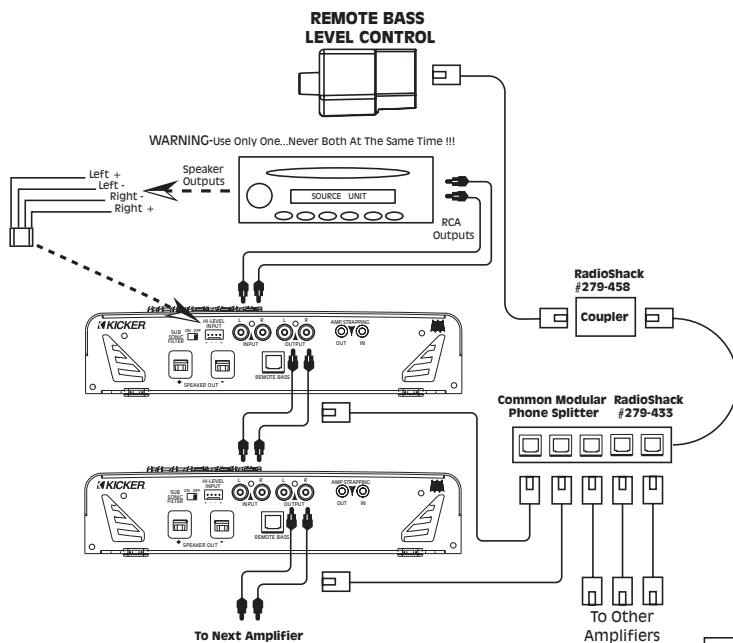


Remote Bass Level Control

When using the Remote Bass Level Control you have the ability to control the level of the subs from the driver's seat. To mount the controller simply screw the metal bracket to the chosen location, then slide the housing onto the bracket until it snaps into place. Run the cable from the controller to the appropriate jack on the amplifier chassis. Note: The maximum level the Remote Bass Level Control will achieve is dependent on where the gain on the amplifier chassis is set. Meaning, if the amplifier gain is set at half, the controller is limited to that setting for volume. Below are two examples of using one controller to operate more than one amplifier. Comes with a 25 ft. cord, enough for any installation. Remember the Remote Bass Level control only works when the amplifier is in the LO pass mode and only controls AMP 2 on the 4 channel models.



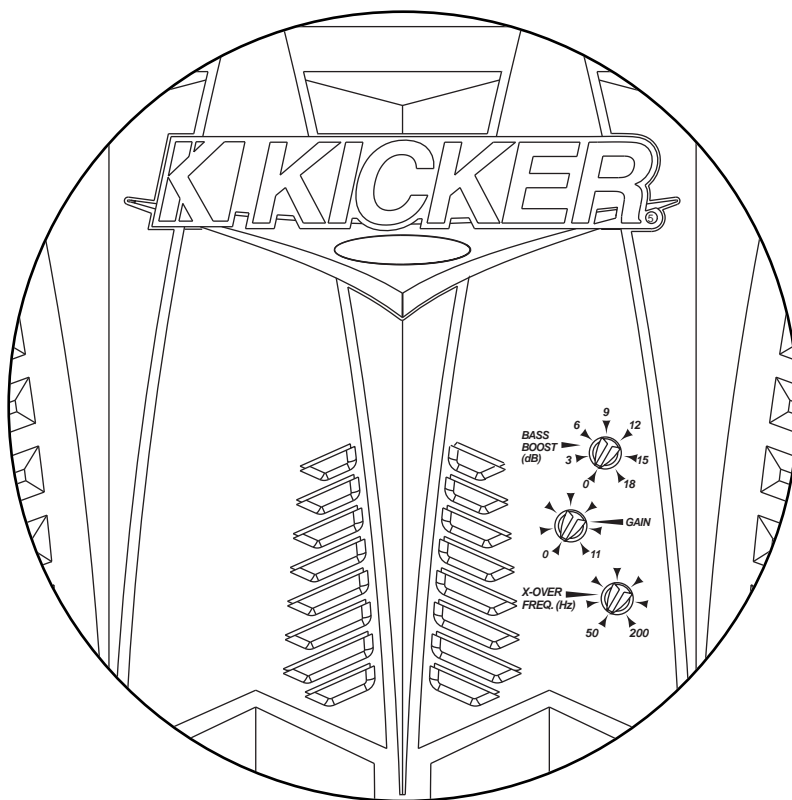
Here are some examples using the adapters to connect more than one amplifier to one Remote Bass Level control. Either way will work, you just have to decide which one fits your needs.



Adjusting Amplifier Controls

On your Kicker amplifier there are rotary controls on top and switches on the end panel. These controls ensure the reliability and performance of the amplifier, so they need to be set correctly. Depending on the KX amplifier you are using, the number of rotary controls on the top will vary.

BEFORE TURNING ON THE SYSTEM FOR THE FIRST TIME, MAKE SURE THAT THE ROTARY CONTROLS ON TOP OF THE AMPLIFIER ARE TURNED FULLY COUNTER-CLOCKWISE!

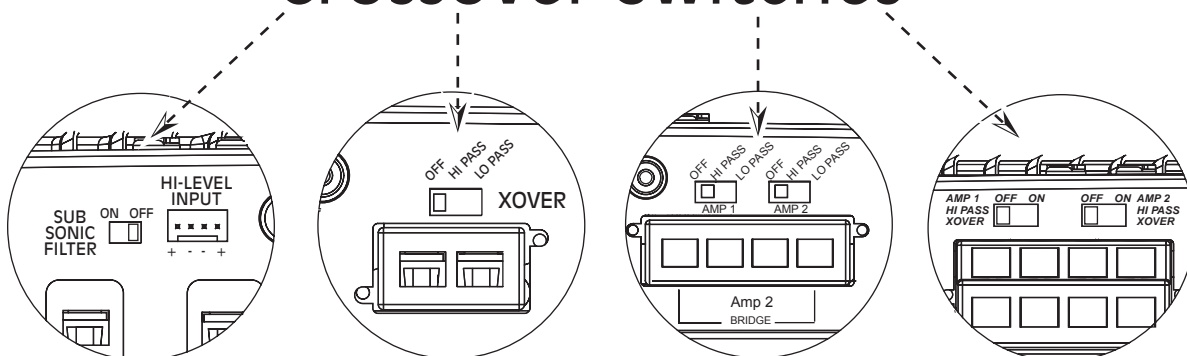


CROSSOVER SWITCHES

NEVER CHANGE THE CROSSOVER SWITCH SETTING WITH THE SYSTEM ON!

The switches located on the end panel next to the RCA jacks are for setting the internal crossover. In the **OFF** position the amplifier passes a full range signal to the speakers. Use the **LO PASS** position when connected to a subwoofer. The **HI PASS or ON** position should be selected when connected to any speakers which you do not want to receive sub-bass information.

Crossover Switches



Crossover Control

Where you set the crossover is very subjective and can be fine tuned to match your listening preference or speaker requirement. If the amplifier is driving small speakers (crossover set to HI PASS or ON) the tendency is to set the frequency higher to eliminate the low frequencies from damaging the speaker. If the amplifier is driving large subwoofers (crossover set to LO PASS) the tendency is to set the crossover frequency low. These are only guidelines because setting the right frequency depends on the listeners preferences. What sounds good to one may not sound good to another. The following guidelines should give you a good understanding for working with our amplifiers.

HI PASS

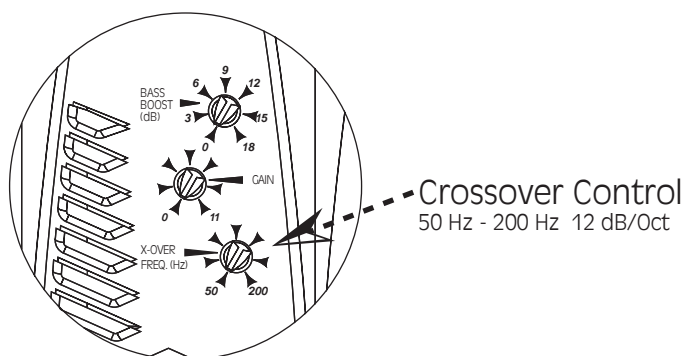
When using the amplifier to drive high and midrange speakers you will need to set the switch to **HI PASS** or **ON** depending on the amplifier model.

When using the amplifier to drive 4" speakers or smaller, a crossover point of 150 Hz or higher is recommended. When using the amplifier to drive 5" - 6" speakers, a crossover point of 80 Hz or higher is recommended. Once set, listen to material that you are familiar with before making any changes.

LO PASS

When using the amplifier to drive woofers the switch will need to be set to **LO PASS**

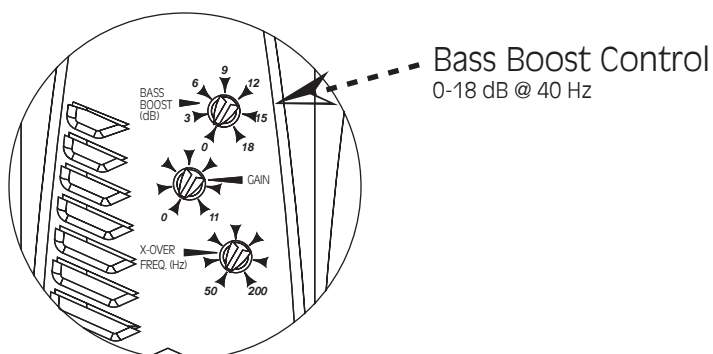
Although it is very subjective, when using 8" woofers or smaller a crossover point of 150 or below is recommended. When using 10" woofers or larger a crossover point below 100 is usually preferred. If you are using good mid-bass drivers (like the NEW RMB6 or RMB8) a lower crossover frequency will allow 12" or larger woofers to sound cleaner.



Bass Boost

The BASS BOOST control is designed to give you increased output at 40 Hz. The setting for this control is subjective, however, if you turn it up, you must go back and adjust the gain control to avoid clipping the amplifier.

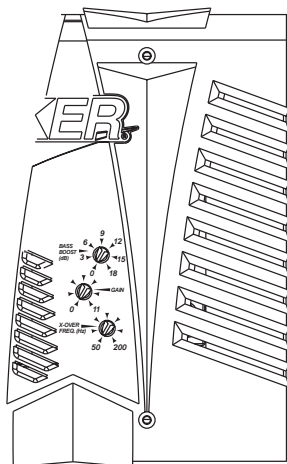
Depending on the limits of the system or the limits of the woofers the BassBoost Control will give your system that extra kick. It will provide up to 18 dB of boost @ 40 Hz, which will more than make your system *POUND!*



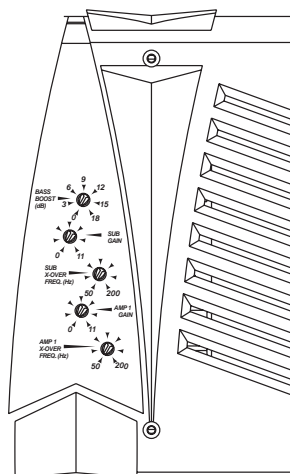
GAIN CONTROLS

Remember, the gain control is not a volume control, it matches the output of the head unit to the input level of the amplifier and must be adjusted properly for best performance. All the way up or down is not necessarily the best. Turn the head unit up to about 3/4 volume. (eg. If the head unit goes to 30, turn it to 25.) Next, turn (clock-wise) the gain on the amplifier up slowly until you can hear audible distortion, then turn it down just a little. Adjust AMP 1 first, then proceed to AMP 2 if applicable. AMP 2 should be adjusted with the same process. If applicable, the SUB amp will be adjusted next. If the Bass Boost is adjusted, the SUB amplifier gain must be re-adjusted to insure the amplifier is not clipping.

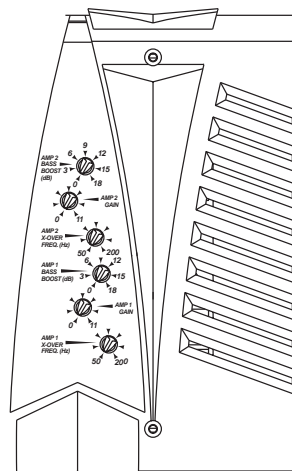
KX.1 & .2



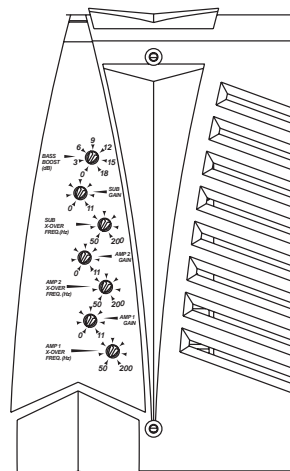
KX550.3



KX.4



KX700.5



Controls

Bass Boost Control

0-18 dB @ 40 Hz

Input Gain Control

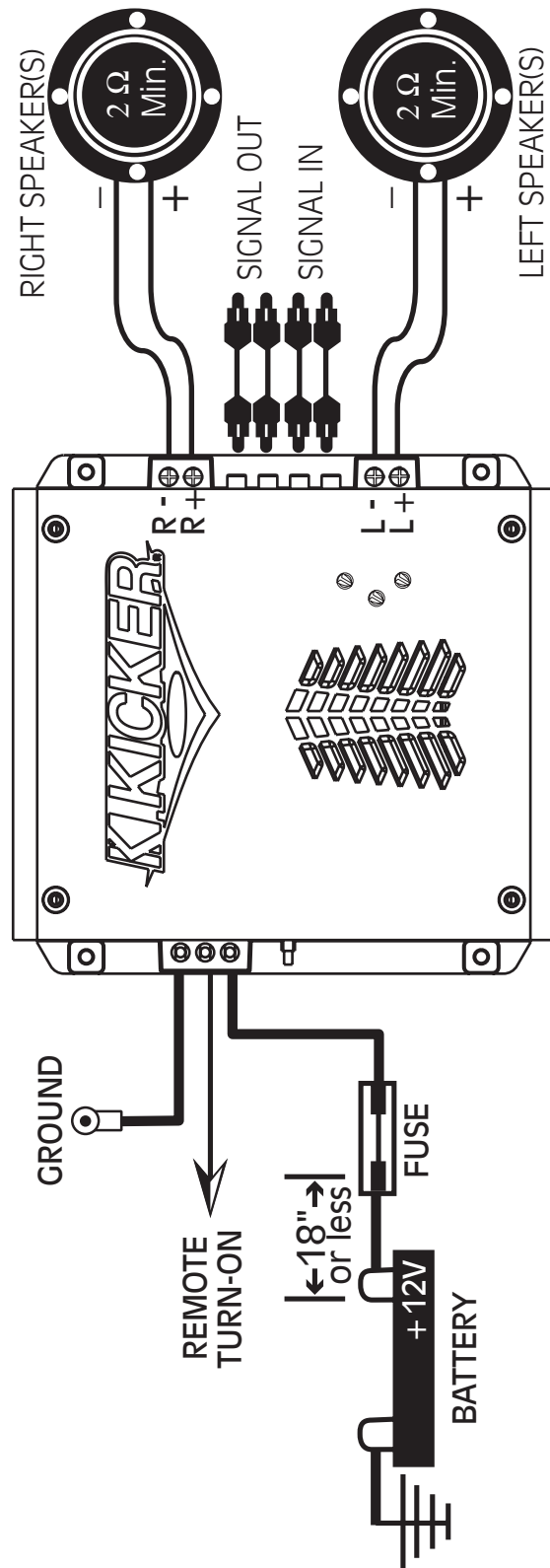
<i>Low Level</i>	<i>High Level</i>
170mV - 5V	340mV - 10V

Crossover Control

50 Hz - 200 Hz 12 dB/Oct.

System Diagrams

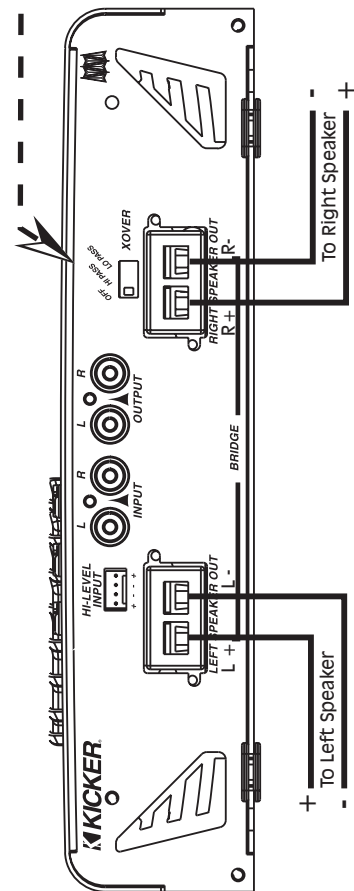
KX 2 channel Stereo Mode



When the amplifier is driving speakers that do not require a crossover, the crossover switch may be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output.

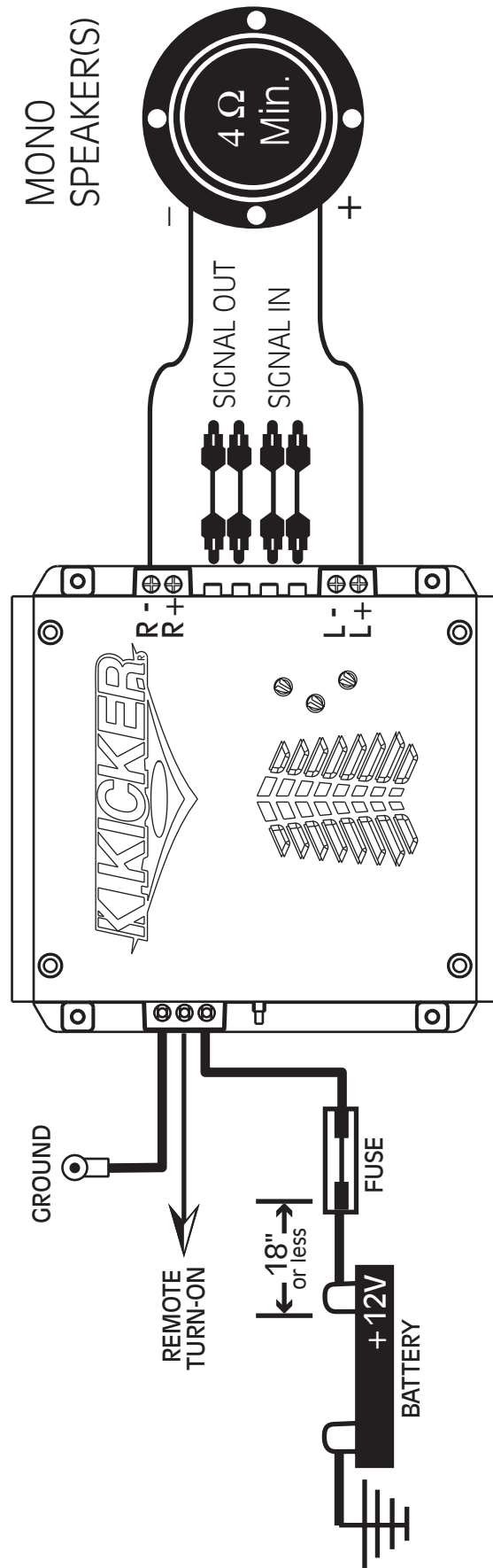
OR...

If the amplifier is driving speakers that do require a crossover, set the switch to HI PASS. This will allow only high frequencies to pass through the amplifier to the speakers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

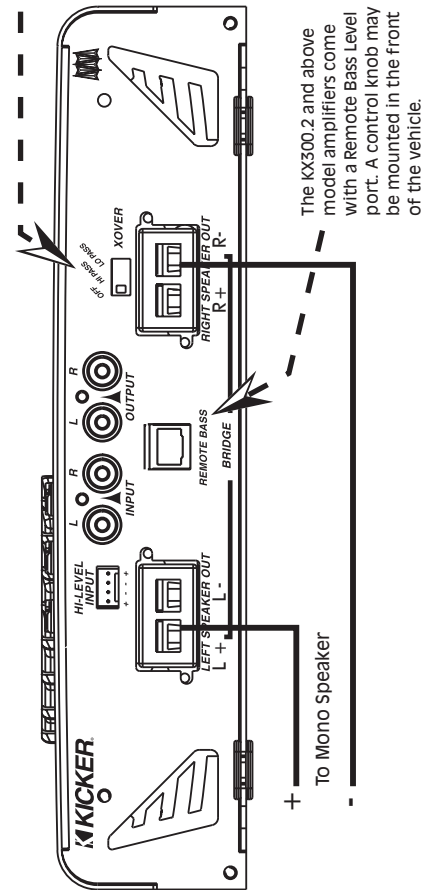


System Diagrams

KX 2 channel Mono Mode

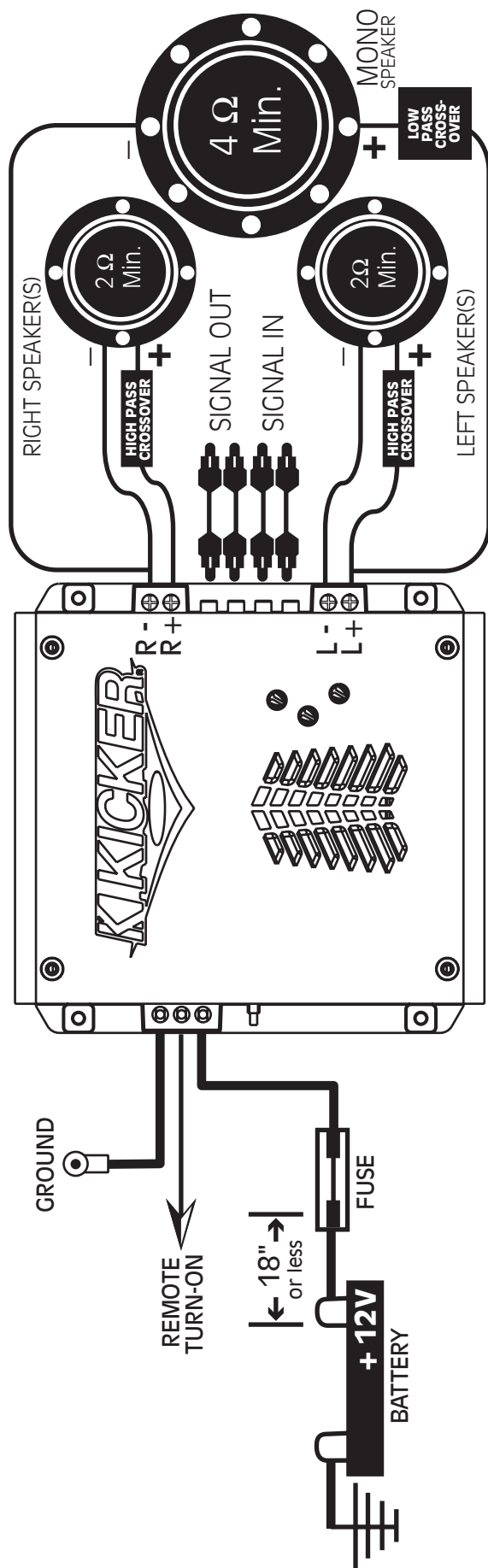


If the amplifier is used to drive subwoofers, set the switch to LO PASS. This will allow only low frequencies to pass through the amplifier to the woofers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

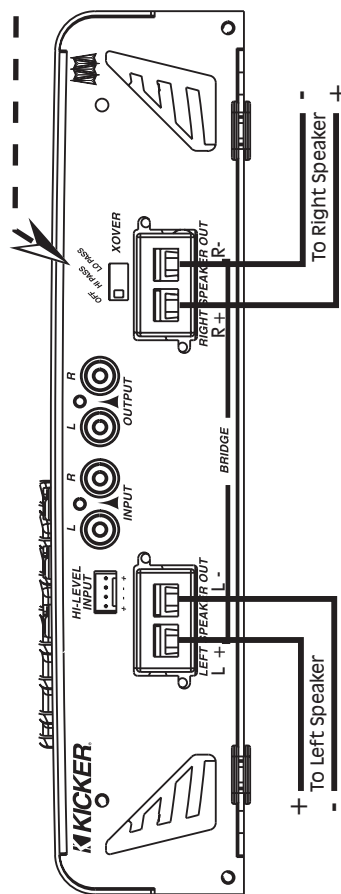


System Diagrams

KX 2 channel SAMS Mode

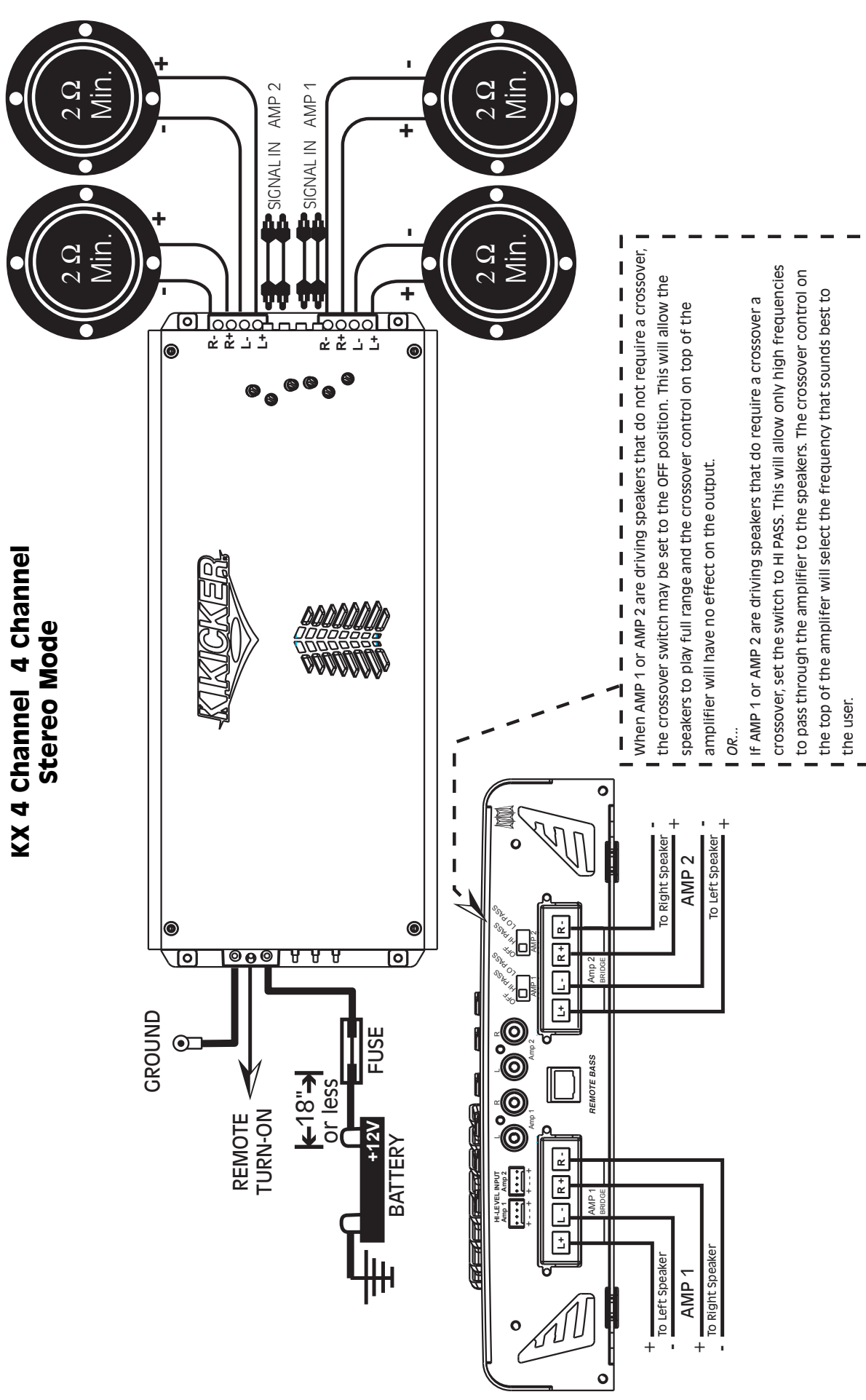


When the amplifier is driving speakers in the configuration above, the crossover switch should be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output. The speakers will need passive crossovers in order to function properly. In the simplest form, the subwoofer will need a coil and the high and midrange speakers will need a capacitor. These components will allow the speakers to play in a dedicated frequency range for the best sound quality.



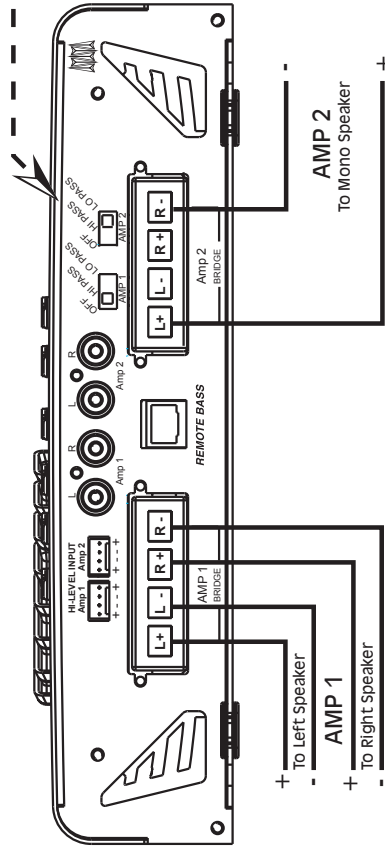
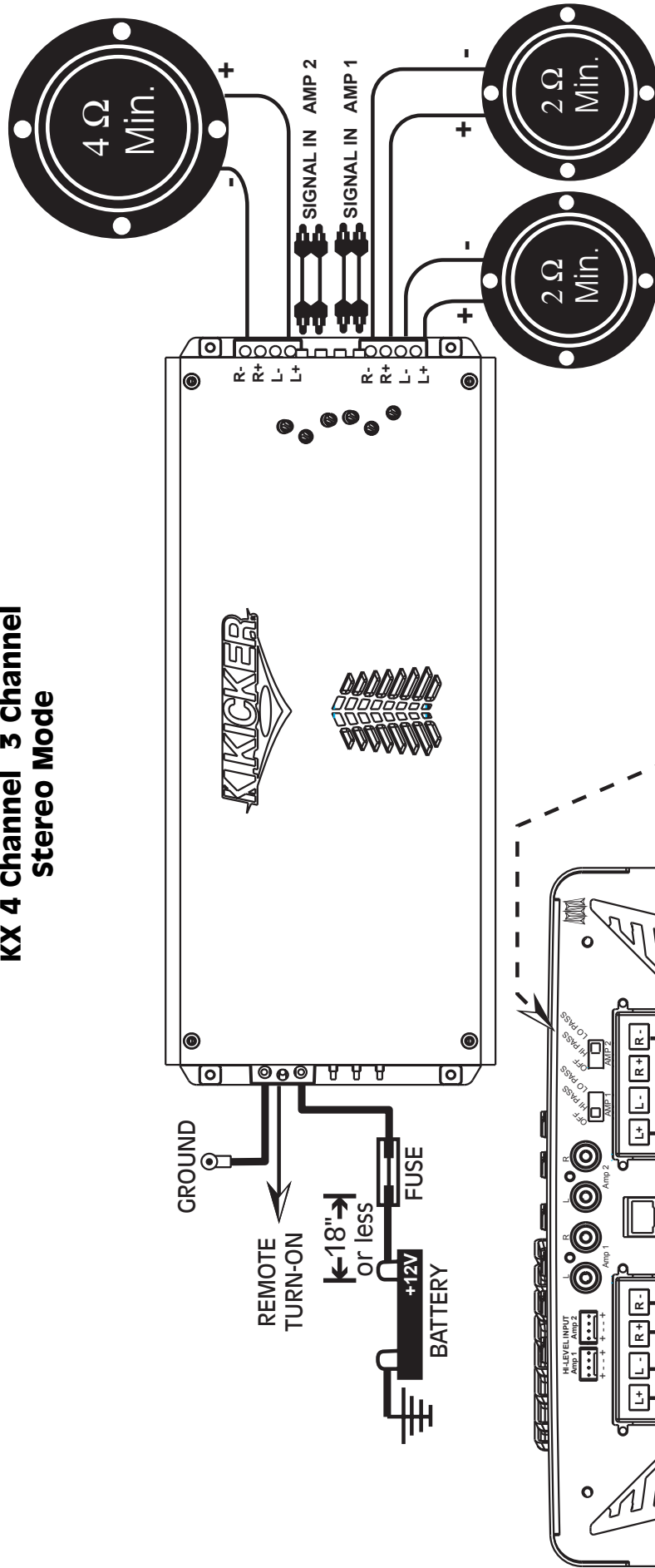
system Diagrams

**KX 4 Channel 4 Channel
Stereo Mode**



System Diagrams

KX 4 Channel 3 Channel Stereo Mode



When AMP 1 is driving speakers that do not require a crossover, the crossover switch may be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output.

OR...

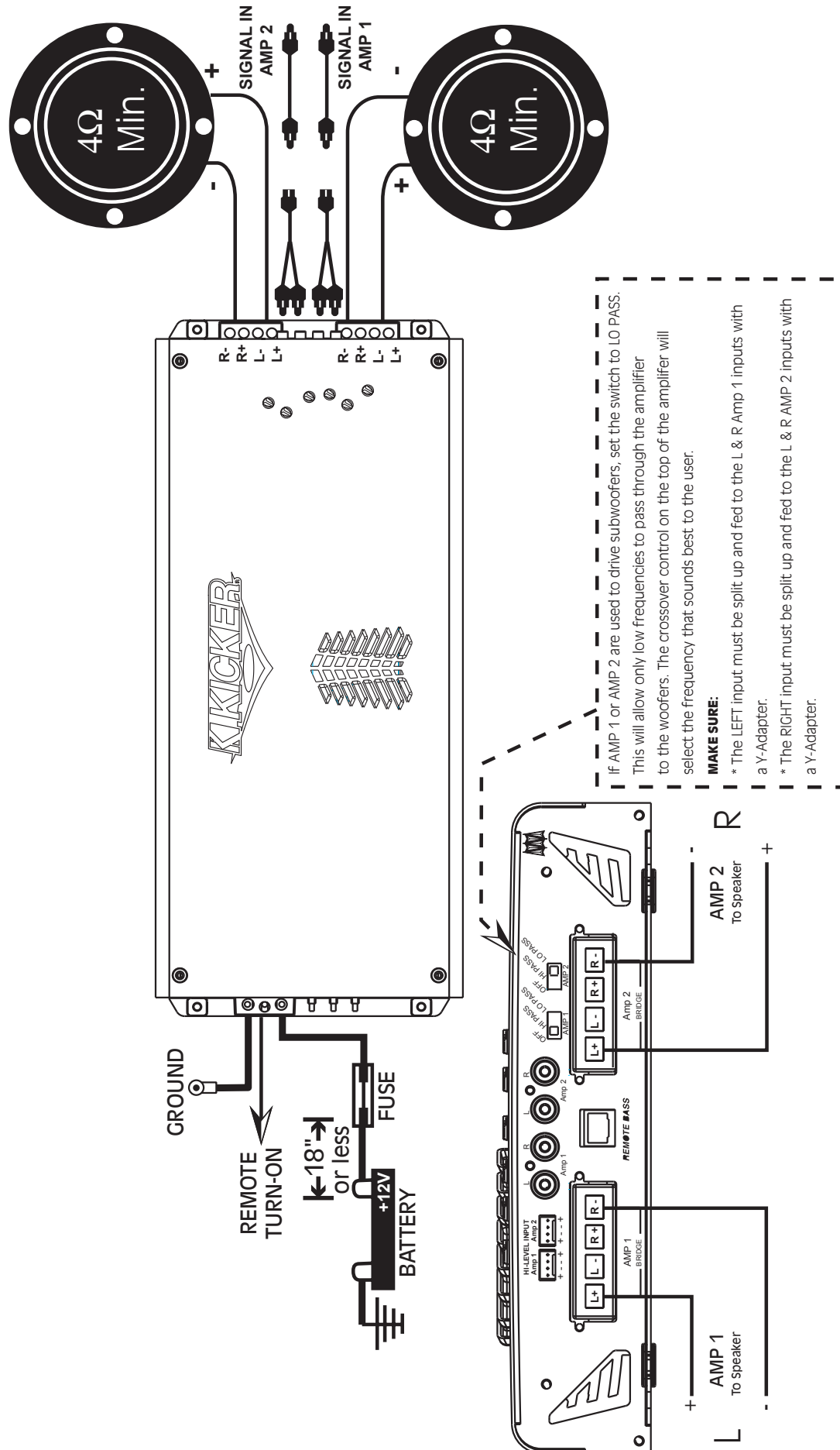
If AMP 1 is driving speakers that do require a crossover, set the switch to HI PASS. This will allow only high frequencies to pass through the amplifier to the speakers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

AND...

If AMP 2 is used to drive subwoofers, set the switch to LO PASS. This will allow only low frequencies to pass through the amplifier to the woofers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

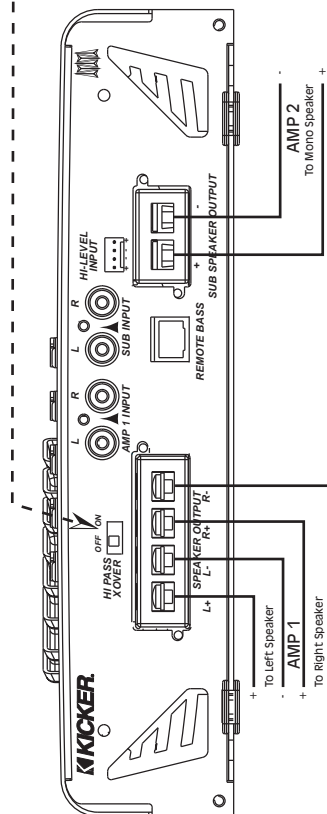
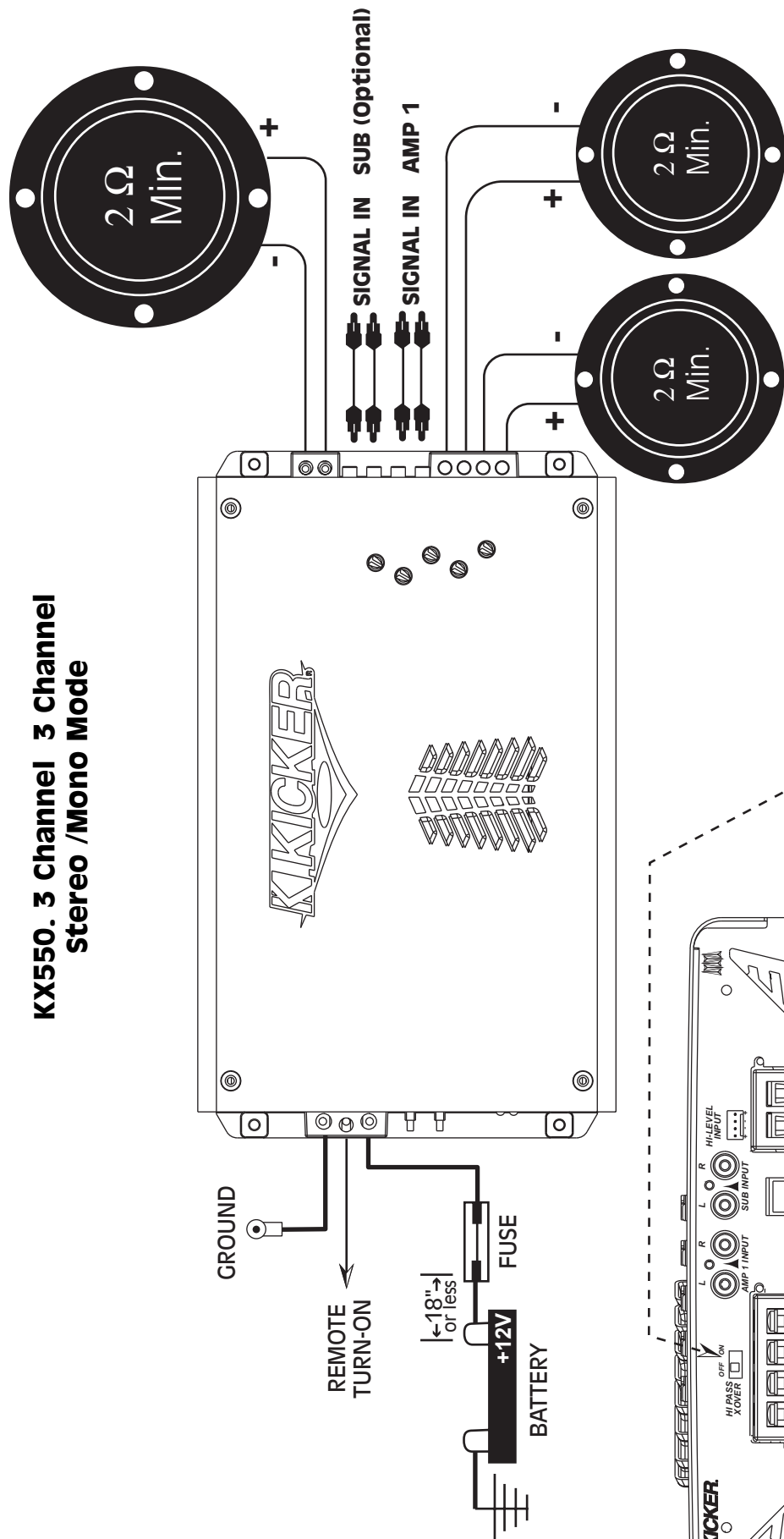
System Diagrams

KX 4 Channel 2 Channel Mono Mode



System Diagrams

KX550. 3 Channel 3 Channel Stereo /Mono Mode



When AMP 1 is driving speakers that do not require a crossover, the crossover switch may be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output.

OR...

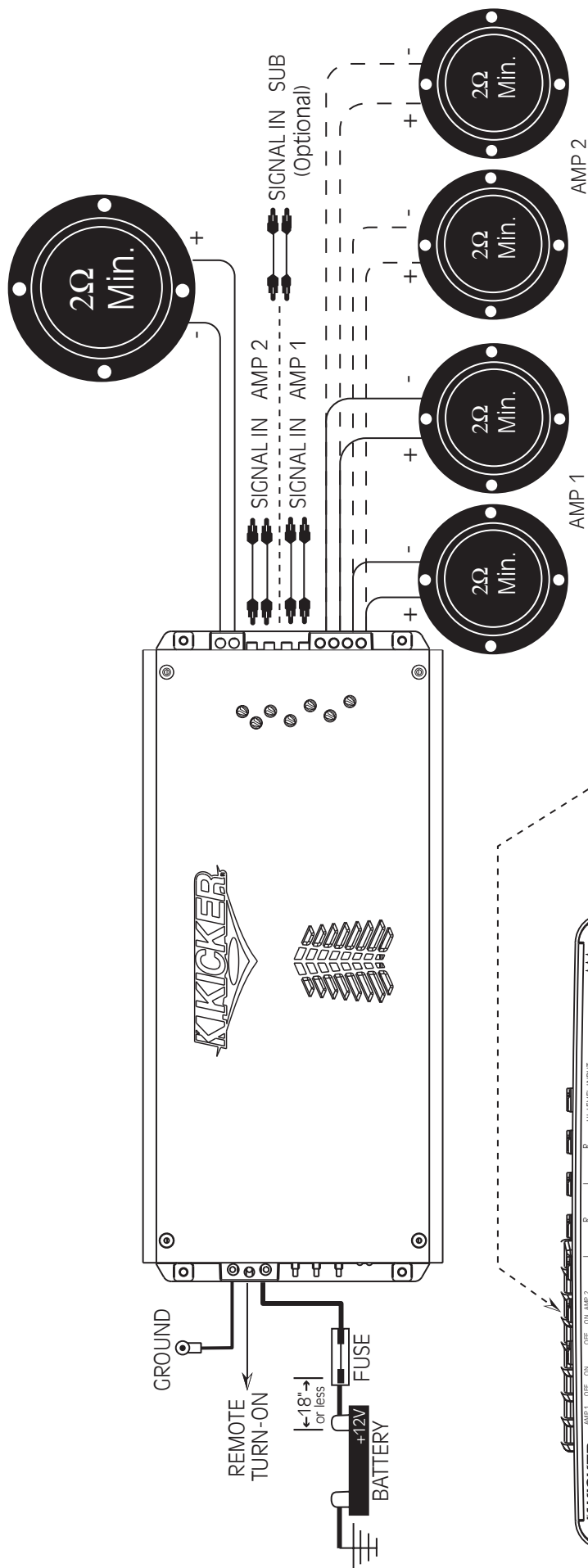
If AMP 1 is driving speakers that do require a crossover, set the switch to ON. This will allow only high frequencies to pass through the amplifier to the speakers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

AND...

AMP 2 is used to drive subwoofers. The crossover does not have an ON or OFF switch. It will allow only low frequencies to pass through the amplifier to the woofers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

System Diagrams

KX700.5 5 Channel Stereo / Mono Mode



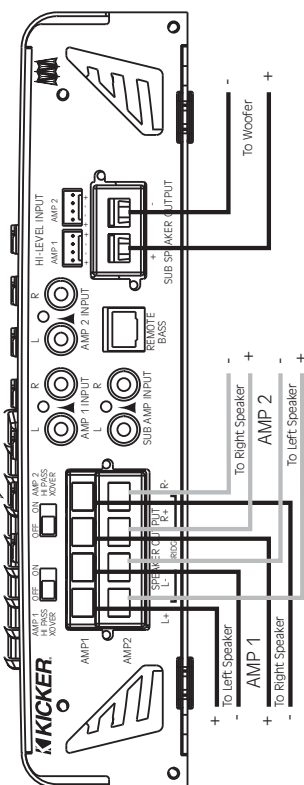
When AMP 1 or AMP 2 are driving speakers that do not require a crossover, the crossover switch may be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output.

OR...

If AMP 1 or AMP 2 are driving speakers that do require a crossover, set the switch to ON. This will allow only high frequencies to pass through the amplifier to the speakers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

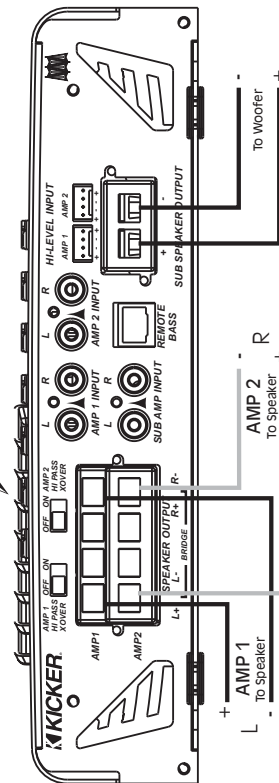
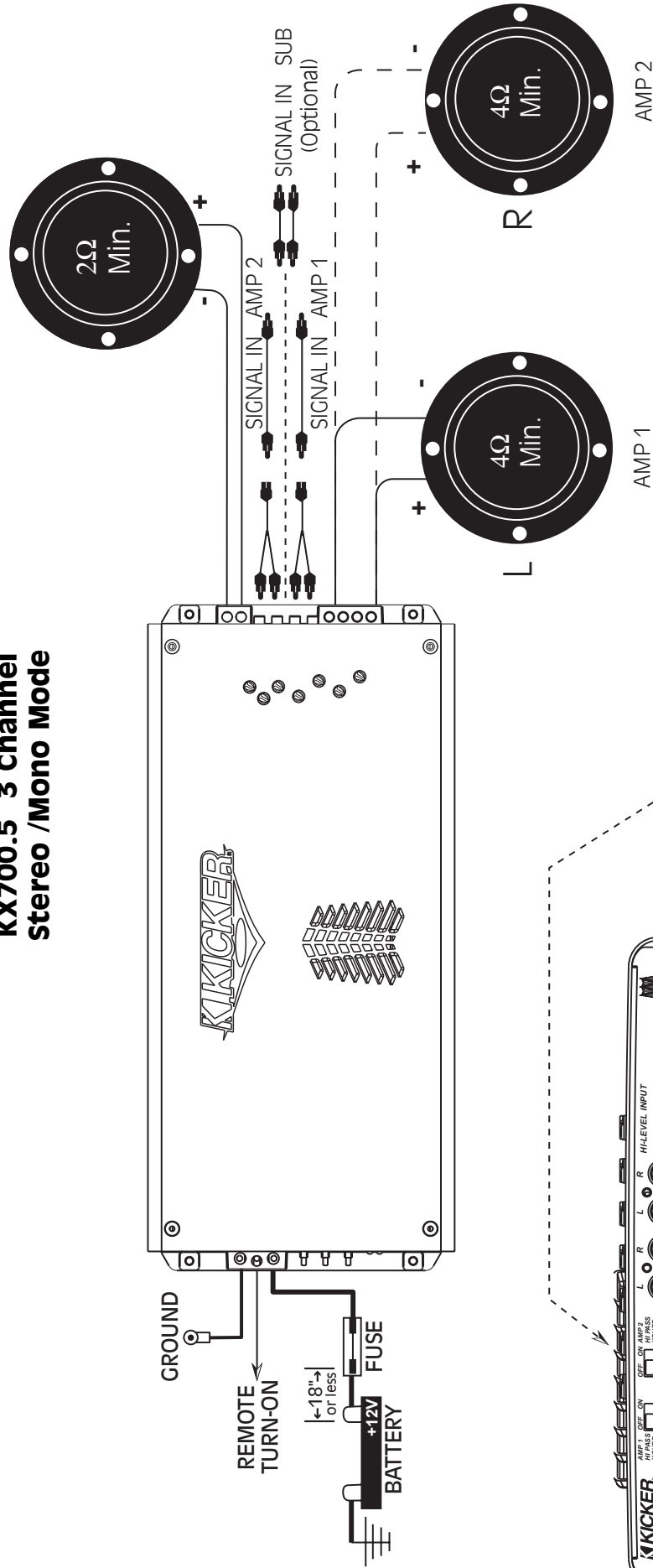
AND...

The SUB AMP is used to drive subwoofers. It does not have an ON or OFF switch. It will allow only low frequencies to pass through the amplifier to the woofers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.



System Diagrams

KX700.5 3 channel Stereo / Mono Mode



When AMP 1 and 2 are driving speakers that do not require a crossover, the crossover switch may be set to the OFF position. This will allow the speakers to play full range and the crossover control on top of the amplifier will have no effect on the output.

OR...

If AMP 1 and 2 are driving speakers that do require a crossover, set the switch to ON. This will allow only high frequencies to pass through the amplifier to the speakers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

AND...

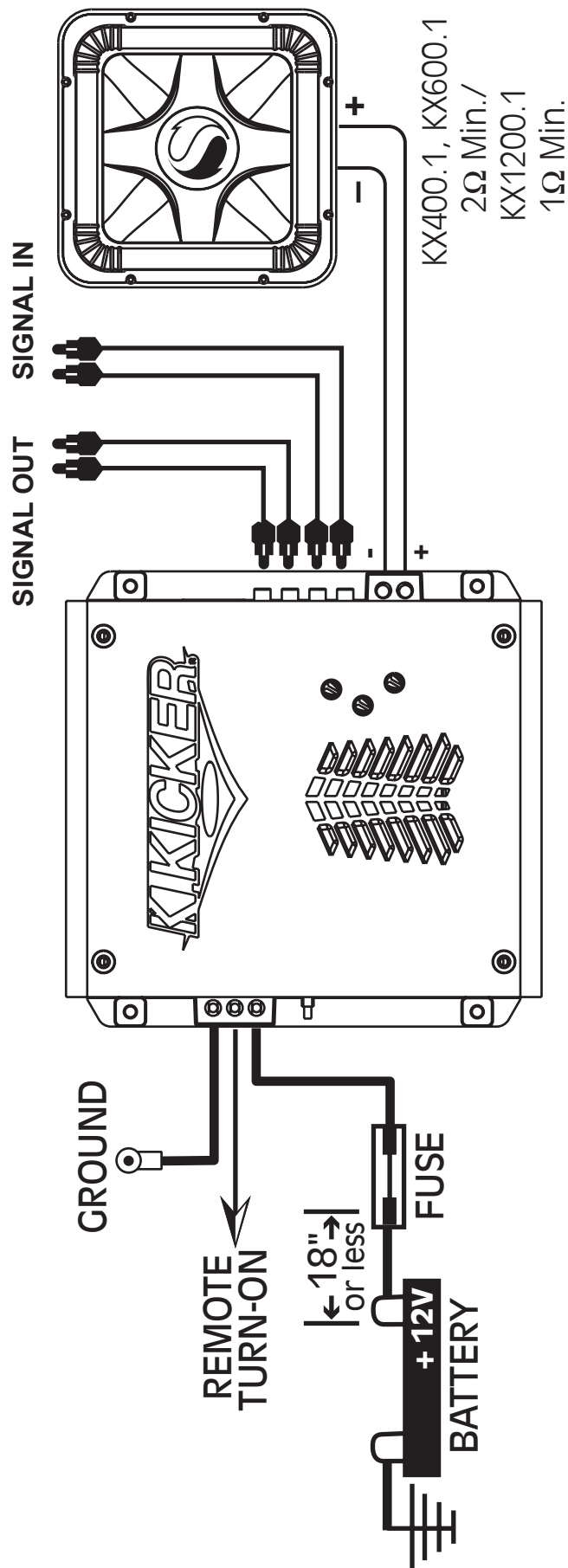
The SUB AMP is used to drive subwoofers. It does not have an ON or OFF switch. It will allow only low frequencies to pass through the amplifier to the woofers. The crossover control on the top of the amplifier will select the frequency that sounds best to the user.

MAKE SURE:

- * The LEFT input must be split up and fed the L & R AMP 1 inputs with a Y-Adapter.
- * The RIGHT input must be split up and fed the L & R AMP 2 inputs with a Y-Adapter.

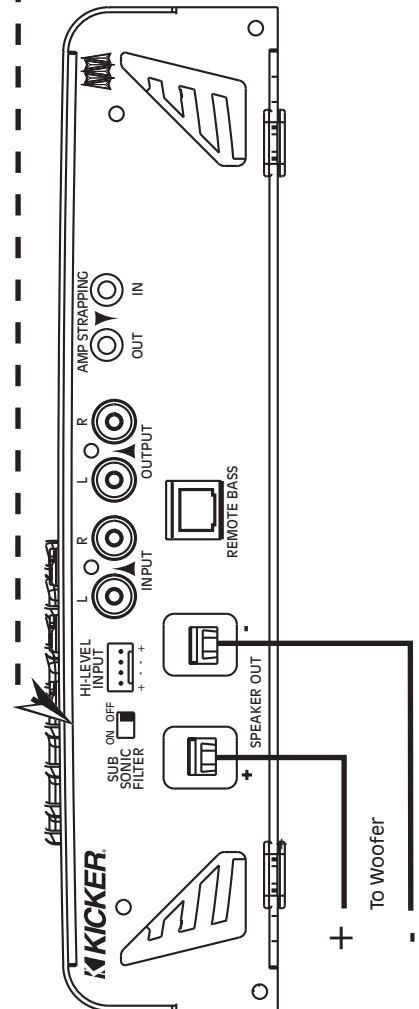
System Diagrams

KX.1 Mono Amplifier



The subsonic filter is useful when the user does not want harmful low frequencies (under 25 Hz) playing through the woofers. With the switch in the ON position the subsonic filter is engaged. With the switch in the OFF position the subsonic filter is not engaged and the woofers are not protected.

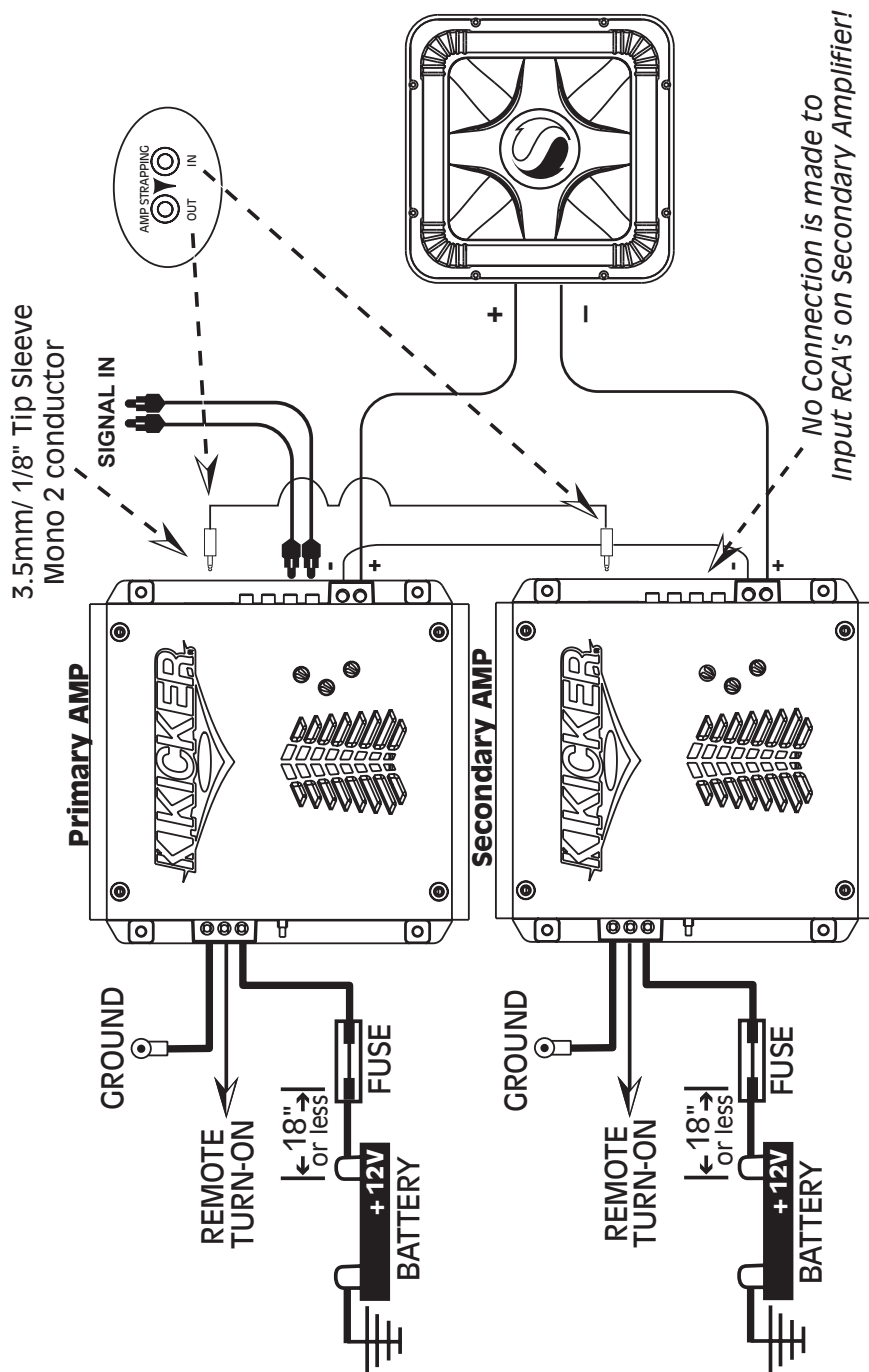
NOTE: A subsonic filter is very important when using vented or ported box designs!



System Diagrams

KX.1 Mono Amplifier Strapping

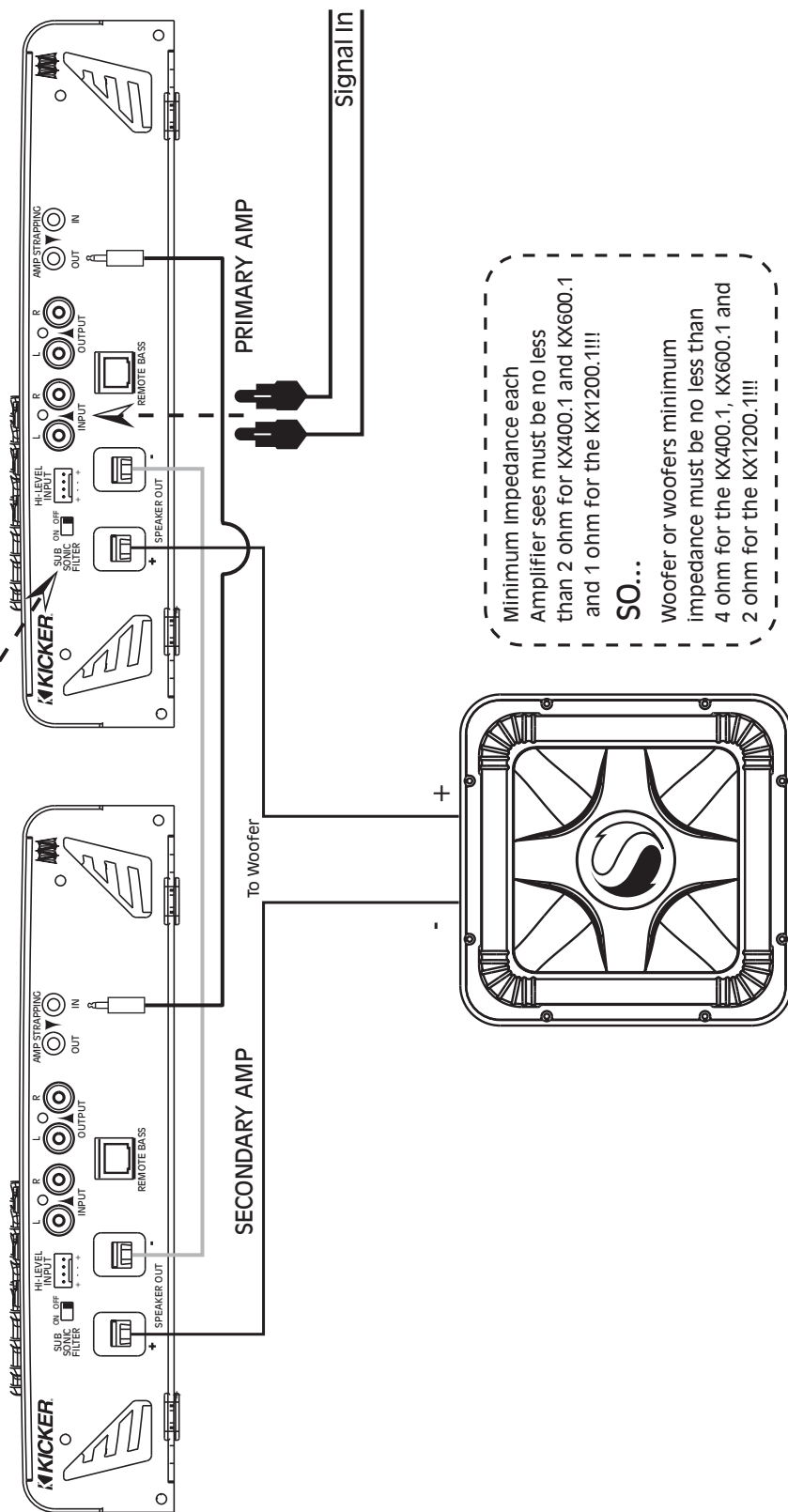
One of the brand new features of the KX mono amplifiers is the ability to "strap" two amplifiers together. Using the cable supplied (a longer one can be purchased at Radio Shack (model # 42-2420)) the two amplifiers can be linked together. This will effectively double the amount of power going to the woofer(s). How can you do this? It is simple. First, you must have two amplifiers. Duh! Let's call the first amplifier the **Primary Amp** and the other amplifier the **Secondary Amp**. The mono cable should be plugged into the strapping jack labeled **OUT** on the **Primary Amp**, and the opposite end plugged into the strapping jack on the **Secondary Amp** labeled **IN**. That's it for the special cable. The next step is the speaker wire. The positive lead on the speaker should be hooked to the positive terminal on the primary amplifier, while the negative speaker terminal should be connected to the positive speaker terminal on the secondary amplifier. The negative terminal of each amplifier should be connected directly by a wire and must be a minimum of 16 gauge. Each amplifier should see no less than 2 ohms (KX400.1, KX600.1) or 1 ohm (KX1200.1). **Strap only two of the same models together!** Do not use more than one strapping jack on the amplifier at a time! **When strapped, the Secondary amplifier controls are bypassed.**



KX.1 Mono Amplifier Strapping cont.

- The subsonic filter is useful when the user does not want harmful low frequencies (under 25 Hz) playing through the woofers. With the switch in the ON position the subsonic filter is engaged. With the switch in the OFF position the subsonic filter is not engaged and the woofers are not protected.

NOTE: A subsonic filter is very important when using vented or ported box designs!



Formulas

Ohm's Law

$$E = I \times R$$

Where: E = Voltage (Volts)

I = Current (Amps or Amperes)

R = Resistance (Ohms or Ω)

Formula Variations:

$$I = E / R$$

$$R = E / I$$

Power Formula

$$P = I \times E$$

Where: P = Power (Watts)

I = Current (Amps or Amperes)

E = Voltage (Volts)

Formula Variations:

$$I = P / E$$

$$E = P / I$$

$$P = I^2 \times R$$

$$P = E^2 / R$$

Apply the numbers from the above formulas to the Power wire calculation to determine the minimum gauge wire to properly supply the amplifier with current.

Power Cable Calculation

(Total RMS power output into 4Ω) x 2 = (Total input wattage [Watts])

$$\frac{(\text{Total input wattage})}{(\text{Supply Voltage})} = (\text{Maximum input current [Amps]})$$

Example: Amplifier with a rating of 100 watts per channel into 4Ω
 $200 \times 2 = 400$ Watts (Total input power)
 $400 \text{ Watts} / 12.5 \text{ Volts} = 32$ amps (Total maximum draw)
 Use this value of current draw to determine wire size from the chart below.

Power Wire Chart

Minimum Gauge wire

Draw (Amps)	Up to 4 ft.	4 to 7ft.	7 to 10ft.	10 to 13 ft.	13 to 16 ft.	16 to 19 ft.	19 to 22 ft.	22 to 28 ft.
0-20	14	12	12	10	10	8	8	8
20-35	12	10	8	8	6	6	6	4
35-50	10	8	8	6	6	4	4	4
50-65	8	8	6	4	4	4	4	2
65-85	6	6	4	4	2	2	2	0
85-105	6	6	4	2	2	2	2	0
105-125	4	4	4	2	2	0	0	0
125-150	2	2	2	2	0	0	0	00

Notes

Notes

ELECTRONICS LIMITED WARRANTY

Stillwater Designs warrants this product to be free from defects in material and workmanship under normal use for a period of **three (3) years from date of original purchase when purchased from and installed by an Authorized KICKER Dealer or one (1) year from date of original purchase if purchased from and not installed by an Authorized KICKER Dealer**. If this product is labeled "B Stock", it is warranted for one (1) year from date of purchase, regardless of place of installation. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction during the warranty period, Stillwater Designs will replace or repair (at its discretion) the defective merchandise with equivalent merchandise at no charge. Warranty replacements on "B-Stock" merchandise may have cosmetic scratches and blemishes. Discontinued products may be replaced with equivalent products.

This warranty is valid only for the **original purchaser** and is not extended to owners of the product subsequent to the original purchaser. Any applicable implied warranties are limited in duration to a period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you.

This warranty gives you specific legal rights; however you may have other rights that vary from state to state.

WHAT TO DO IF YOU NEED WARRANTY OR SERVICE

Defective merchandise must be returned to your local Authorized Stillwater Designs (Kicker) Dealer for warranty. Assistance in locating an Authorized Dealer can be obtained by writing or calling Stillwater Designs direct. You can confirm that a dealer is authorized by asking to see a current authorized dealer window decal.

If it becomes necessary for you to return defective merchandise, call the Kicker Customer Service Department at (405)624-8510 for a Return Authorization (RA) number. Package all defective items in the original container or in a package that will prevent shipping damage, and return to

Stillwater Designs, 5021 North Perkins Road, Stillwater, OK 74075

The RA number must be clearly marked on the outside of the package. Return only defective components. Non-defective items received will be returned freight collect.

Include a **dated proof-of-purchase** from an Authorized Dealer. Warranty expiration on items returned without proof-of-purchase will be determined from the manufacturing date code. Coverage may be invalidated if this date is greater than 18 months previous to the date item is sent in. Freight must be prepaid; items received freight collect will be refused.

Failure to follow these steps may void your warranty. Any questions can be directed to the Kicker Customer Service Department at (405)624-8510.

WHAT IS NOT COVERED?

This warranty is valid only if the product is used for the purpose for which it was designed. It does not cover:

- Products purchased from an unauthorized dealer.
- Damage due to improper installation
- Damage caused by exposure to water, excessive heat, chemical cleaners, and/or UV radiation.
- Damage through negligence, misuse, accident or abuse. Repeated returns for the same damage may be considered abuse.
- Freight damage.
- The cost of shipping product to Stillwater Designs.
- Items previously repaired or modified by any unauthorized repair facility.
- Items returned from unauthorized individuals or dealers.
- Return shipping on non-defective items.
- Products with tampered or missing barcode labels.
- Products returned without a Return Authorization (RA) number.

HOW LONG WILL IT TAKE?

Stillwater Designs maintains a goal of 24-hour service for all returns. Delays may be incurred if lack of replacement inventory or parts is encountered.

INTERNATIONAL WARRANTY

Contact your International Stillwater Designs dealer or distributor concerning specific procedures for your country's warranty policies.



P.O. Box 459 • Stillwater, Oklahoma 74076 • U.S.A. • 405 624-8510

STILLWATER
Designs®

WARNING:

KICKER drivers are capable of producing sound levels that can permanently damage your hearing! Turning up a system to a level that has audible distortion is more damaging to your ears than listening to an undistorted system at the same volume level. The threshold of pain is always an indicator that the sound level is too loud and may permanently damage your hearing. Please use common sense when controlling volume!

